TECHNOLOGY DEPT!

September 4, 1940

NATIONAL PETROLEUM NEWS

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DETROIT

Show Motor Oil Varnish Tendencies With Single-Cylinder Test Engines

Methods developed for using 2½-horsepower single-cylinder engines in laboratory tests of oxidation and corrosive properties of motor oils show results to be expected in actual service.

• • •

Monthly Education Programs Institution of Ark.-La. Assn.

• • •

Propose New Dropping Point Tests For Grease Softening Quality

NEWS IN BRIEF

States ignore Oil Compact's recommendations in setting quotas. Page 13.

* * *

Trainload rate proposal shelved by Rock Island; blames refiners. Page 13.

* * *

Two more oil men named to aid in national defense preparations. Page 13.

* * *

Synthetic rubber as defense project hits financing snag. Page 16.

Storage plans for Army-Navy aviation "gas" near completion. Page 14.

* * *

Producers ask probe of Mexican oil imports into U. S. Page 18.

* * *

Pollution bill dead for this session, says Sen. Barkley. Page 15.

* * *

Pennsylvania crude cut 15c; top grades at $1.85. Page 14.

REFINING TECHNOLOGY EDITION

THE HOSE REEL PUMP

Pulling power of the Tokheim Hose Reel Pump is well known by its owners. Smarter appearance due to modern design and semi-concealed hose really brings in the buyers, and the better service it offers with easy, accurate operation and longer hose reach, keeps them coming. Make your Fall days Happy days. Install Tokheim Hose Reels now!

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NATIONAL PETROLEUM NEWS

September 4, 1940

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COMING MEETINGS...

SEPTEMBER

American Chemical Society, Detroit, Mon-Fri., Sept. 9-13.
Oil Trades Assn. of New York, Sport's Day, Pelham Country Club, Pelham, N. Y., Tues., Sept. 10.
Michigan Petroleum Assn., Fall Convention, Park Place Hotel, Traverse City, Mich., Tues-Wed., Sept. 17-18.
National Petroleum Assn., Hotel Traymore, Atlantic City, N. J., Wed.-Fri., Sept. 18-20.
SAE National Tractor Meeting, Schroeder Hotel, Milwaukee, Wis., Tues.-Wed., Sept. 24, 25.

OCTOBER

National Lubricating Grease Institute, Annual Convention Stevens Hotel, Chicago, Mon.-Tues., Sept. 30, Oct. 1.
Liquefied Petroleum Gas Assn., Omaha, Nebr., Mon-Tues., Sept. 30-Oct. 1.
North American Gasoline Tax Conference, Whitley Hotel, Montgomery, Ala., Thurs.-Sat., Oct. 3-5.
Western Petroleum Refiners Assn., Regional Meeting, Wichita, Kansas, Fri., Oct. 4.
American Gas Assn., Atlantic City, New Jersey, Mon.-Thurs., Oct. 7-10.
National Safety Congress & Exposition, Hotel Stevens, Chicago, Ill., Mon.-Fri., Oct. 7-11.
Indiana Independent Petroleum Assn., Fall Convention Hotel Severin, Indianapolis, Wed.-Thurs., Oct. 9-10.
Automobile Manufacturers Assn., 1940 Autoshow, New York, Sat., Oct. 12.
SAE Annual Dinner, Hotel Commodore, New York, N. Y., Mon., Oct. 14.
National Stripper Well Assn., Dallas, Tex., Tues., Oct. 15.
Independent Petroleum Assn. of America, Annual Meeting, Dallas, Texas, Wed.-Fri., Oct. 16-18.
American Institute of Mining and Metallurgical Engineers, Petroleum Division, Los Angeles, Oct. 17-18.
American Institute of Mining and Metallurgical Engineers, Petroleum Division, Tulsa, Okla., Thurs.-Sat., Oct. 24-26.
National Dixie Distributors, Inc., Hot Springs, Ark., Monday, Oct. 21.
Western Petroleum Refiners Assn., Regional Meeting, Shreveport, La., Fri., Oct. 25.
Oil Trades Assn. of New York, Annual Banquet Waldorf-Astoria Hotel, New York, N. Y., Tues., Oct. 29.

NOVEMBER

California Natural Gasoline Assn., Los Angeles, Calif., Fri., Nov. 1.
Texas Mid-Continent Oil & Gas Assn., Fort Worth, Tex., Thurs.-Sat., Oct. 31-Nov. 2.
SAE, National Aircraft Production Meeting, Biltmore Hotel, Los Angeles, Calif., Thurs.-Sat., Oct. 31-Nov. 2.
American Assn. of Petroleum Geologists, Los Angeles, Calif., Thurs.-Fri., Nov. 7-8.
American Petroleum Institute, 21st Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Fri., Nov. 11-15.
Arkansas Oil Dealers Assn., Little Rock, Ark., Thurs., Nov. 14.
Arkansas Society for Testing Materials, Hotel Mayflower, Washington, D. C., Thurs., Nov. 14.

DECEMBER

American Institute of Chemical Engineers, New Orleans, La., Mon.-Fri., Dec. 2-6.
National Asphalt Conference, Dallas, Texas, Mon.-Sat., Dec. 9-14.
National Chemical Exposition, Stevens Hotel Exposition Hall, Chicago, Ill., Wed.-Sun., Dec. 11-15.

THIS WEEK WITH NPN...

MODERNIZATION

In a recent issue, NPN carried an article showing how modernization pays dividends in increased sales. In this issue, NPN brings you another first-hand article which tells how an oil marketing company has made modernization an important keystone in their success. The partners of this company built their business from practically nothing to nearly 400,000 gallons yearly in less than four years. Part of their success was due to careful selection and management of personnel, but an important factor was the appointment of one partner to be on the constant lookout for new and better equipment and modernization ideas that would enable them to do their job better and cheaper. You won't want to miss this story. See page 25.

SOFT DRINKS

With more and more service stations handling soft drinks every year, oil marketers are wondering if there is worthwhile profit in this item. NPN points out in an article in this issue that soft drinks can be made a profitable adjunct to service stations, only if oil marketers know the answers to the many vexing problems that arise. The article points out these problems and how some oil marketers have found the answers in terms of profit and service. And although soft drink sales are concentrated in hot weather months, more and more oil companies are finding it profitable to handle soft drinks on a year-round basis. See page 30.

BUCKETS VS. PUMPS

If you are operating small trucks without power takeoffs and have run into higher costs due to the necessity for bucketing, be sure to read the article on auxiliary pumps in this issue. It shows how oil marketers have met this problem by installing an auxiliary pump and meter unit on trucks. The unit is cheaply and quickly installed, helps speed up deliveries, gives accurate measurement, and eliminates entirely the need for bucketing. One marketer eliminated 160 bucket trips on one route through this unit. See page 40.

NEXT WEEK

Next week's NPN carries an article that will help you reduce your heating oil delivery costs. It concerns the Degree-Day System, how it works and how oil marketers are using it to estimate consumer demand for heating oils, based on temperature fluctuations. Thus, they schedule deliveries better and reduce their costs. Another article tells how an oil marketer has built up a gallonage of 55,000 gallons per month in one station catering to cross-country truckers.

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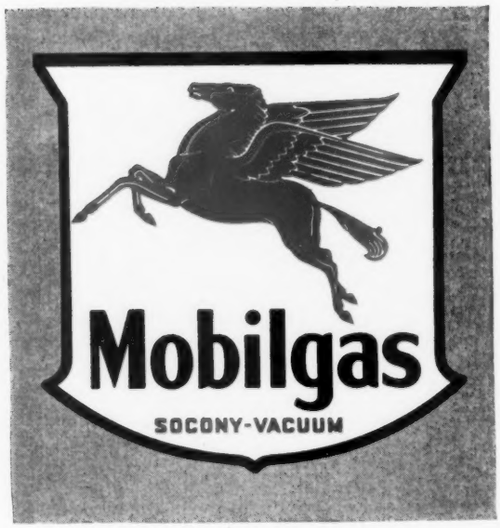

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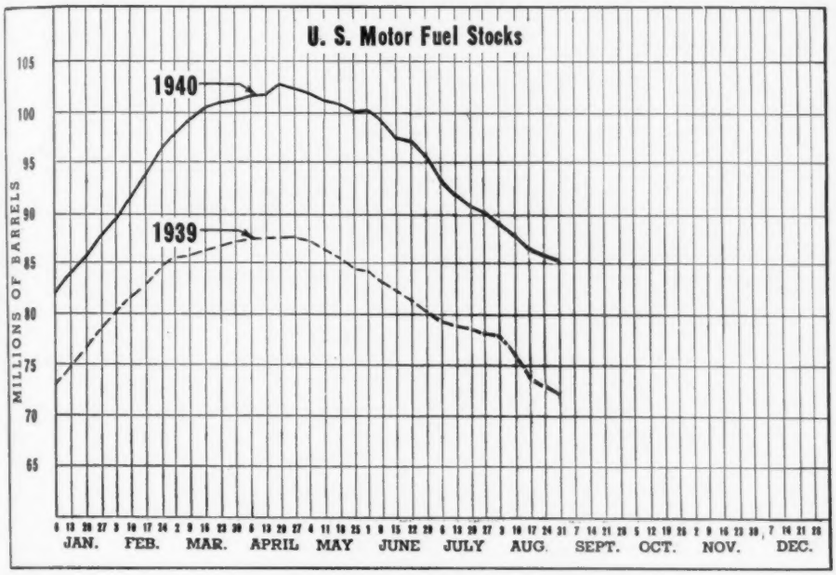

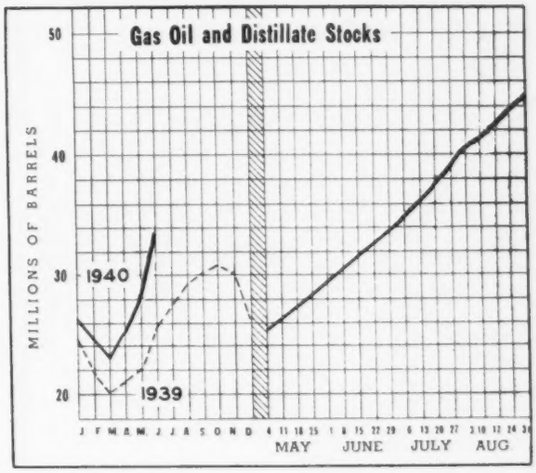

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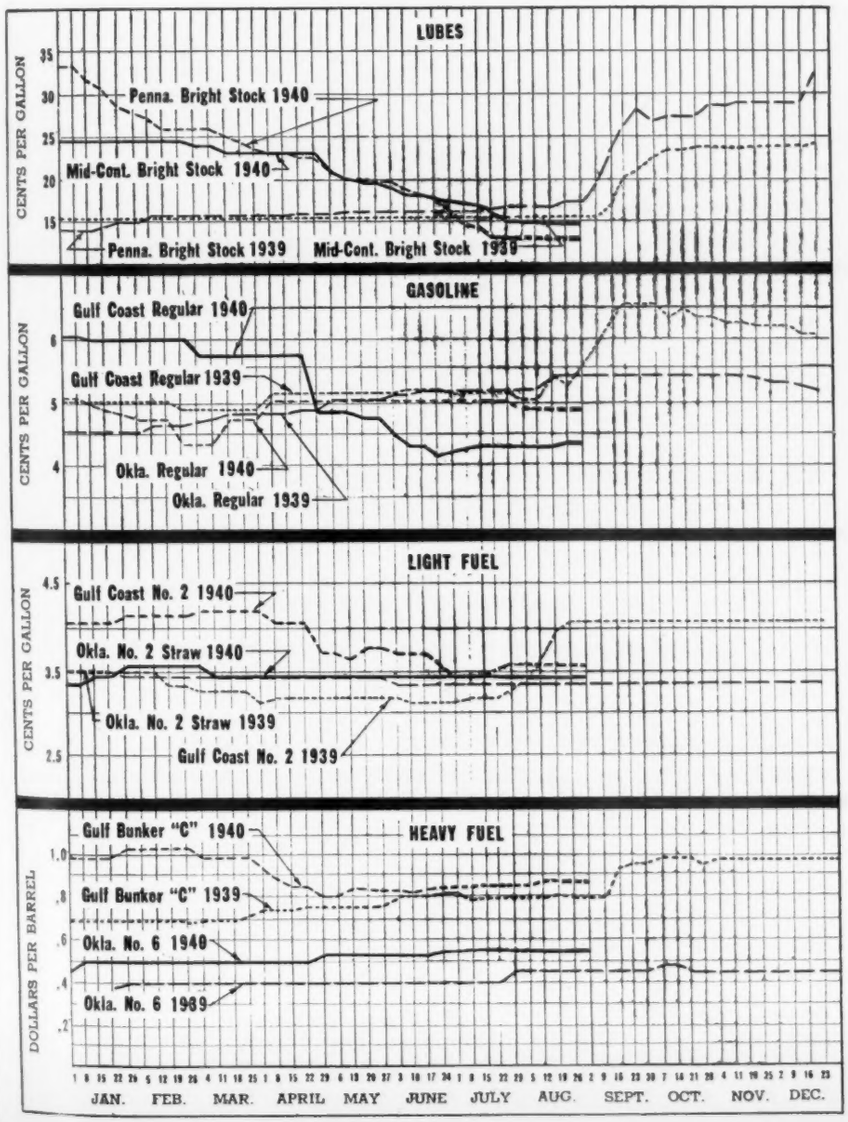
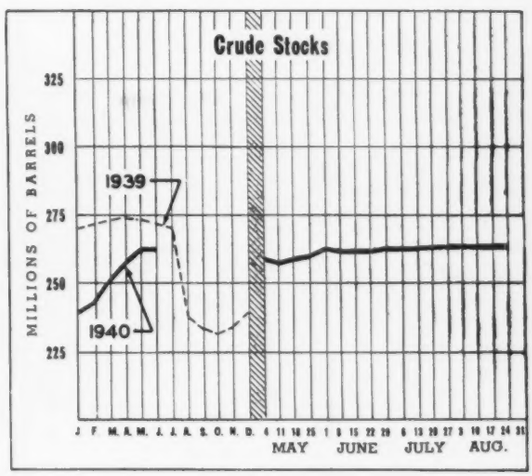
REFINERY TANK CAR PRICES





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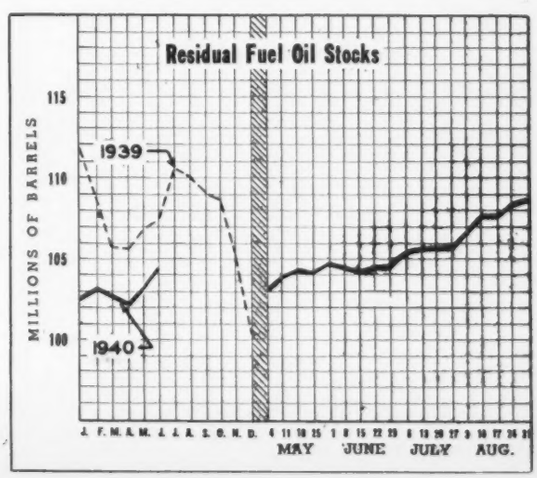

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at the right TIME?

. . at the right PRICE?

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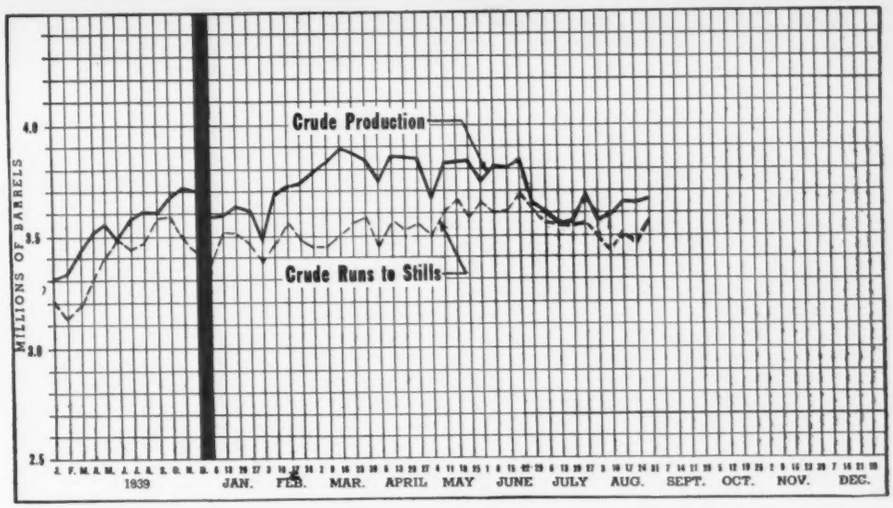
Crude Oil Production for the U. S.

(American Petroleum Institute figures)

	Week Ended Aug. 31 Barrels	Week Ended Aug. 24 Barrels
Oklahoma	420,550	401,750
Kansas	176,900	181,800
Nebraska	150	200
Texas	1,205,050	1,200,350
Louisiana	274,900	273,800
Arkansas	73,750	73,900
Mississippi	21,800	20,300
Illinois	377,800	381,650
Indiana	18,450	16,850
Eastern (Ill. and Ind. excluded)	88,850	89,750
Michigan	53,350	53,570
Wyoming	72,150	78,350
Montana	17,450	17,500
Colorado	3,500	3,400
New Mexico	100,700	100,650
California	596,000	614,000
Total U. S.	3,501,350	3,508,000
Crude Imports	177,000	133,570
Total New Supply	3,678,350	3,641,570



Weekly Changes in Crude Oil Stocks*

(Thousands of barrels)

Grade or origin	Aug. 17	Aug. 24	Chge. from Aug. 17
Pennsylvania Grade	4,675	4,715	+ 40
Other Appalachian	1,374	1,395	+ 21
Lima-Michigan	1,408	1,445	+ 37
Illinois-Indiana	21,359	21,189	—170
Arkansas	3,382	3,269	—113
Kansas	7,966	7,981	+ 15
Louisiana:	13,003	13,324	+321
Northern (inc. Mississippi)	4,597	4,866	+269
Gulf Coast	8,406	8,458	+ 52
New Mexico	7,031	7,196	+165
Oklahoma	66,191	65,848	—343
Texas:	80,609	80,793	+184
East Texas	19,843	19,859	+ 16
West Texas	17,890	18,007	+117
Gulf Coast	18,901	18,735	—166
Other Texas	23,975	24,192	+217
Rocky Mountain	16,023	16,171	+148
California	36,994	37,036	+ 42
Foreign	3,410	3,440	+ 30
Total U. S. refinable	263,425	263,802	+377
Heavy in California	13,156	12,874	—282

*As compiled by U. S. Bureau of Mines.

N. P. N. Refinery Index

The Refinery Index shown below represents the return in cents per barrel (42 gallons) from refining a barrel of 36 gravity Mid-Continent crude into its various principal products. The index is calculated by subtracting the current price of crude at the well from the average price of refined products sold at current quoted Oklahoma refinery market prices.

N.P.N. Gasoline Index

	Dealer Tank T.W. Cents per Gal.	Car
Sept. 3	8.86	5.22
Month ago	8.93	5.37
Year ago	9.69	5.37

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 9 wholesale markets for regular-grade gasoline.

Date	Margin
Sept. 1	50.3
Month ago	50.6
Year ago	59.0

Gasoline Consumption by States, June 1940

(Figures in thousands)

	Month of June, 1940 Gallons	Month of June, 1939 Gallons	% of Change	6 Months Ending With June, 1940 Gallons	6 Months Ending With June, 1939 Gallons	% of Change
Alabama	22,807	20,137	+13.26	124,216	116,400	+ 6.71
Arizona	9,892	9,377	+ 5.49	56,390	51,990	+ 8.46
Arkansas	15,562	15,461	+ 0.65	87,830	83,666	+ 4.98
California	178,018	168,572	+ 5.60	930,197	881,718	+ 5.50
Colorado	26,089	22,461	+16.15	119,881	110,402	+ 8.59
Connecticut	35,183	32,255	+ 9.08	168,452	159,897	+ 5.35
Delaware	6,084	5,518	+10.26	28,873	27,228	+ 6.04
District of Columbia	14,739	13,150	+12.08	78,390	71,744	+ 9.26
Florida	30,823	26,905	+14.56	211,370	190,868	+10.74
Georgia	33,662	29,821	+12.88	186,012	172,400	+ 7.90
Idaho	10,491	9,334	+12.40	47,532	42,996	+10.55
Illinois	145,763	127,322	+14.48	717,608	662,462	+ 8.32
Indiana	68,173	57,670	+18.21	343,351	306,961	+11.85
Iowa	58,380	50,589	+15.40	280,573	264,094	+ 6.24
Kansas	59,420	54,605	+ 8.82	243,318	233,943	+ 4.01
Kentucky	24,831	23,444	+ 5.92	133,997	128,175	+ 4.54
Louisiana	22,146	22,185	— 0.18	131,670	122,106	+ 7.83
Maine	15,664	14,490	+ 8.10	66,711	62,375	+ 6.95
Maryland	29,375	26,227	+12.00	146,197	135,992	+ 7.50
Massachusetts	72,332	67,791	+ 6.70	343,327	330,590	+ 3.85
Michigan	116,007	108,142	+ 7.27	580,343	531,660	+ 9.16
Minnesota	55,897	51,588	+ 8.35	268,190	245,621	+ 9.19
Mississippi	17,678	17,272	+ 2.35	102,270	97,073	+ 5.35
Missouri	64,341	57,527	+11.84	325,605	307,751	+ 5.80
Montana	15,133	12,179	+24.25	63,248	55,491	+13.98
Nebraska	26,817	21,568	+24.34	117,112	110,706	+ 5.79
Nevada	4,285	4,358	— 1.68	19,168	19,872	— 3.54
New Hampshire	9,371	8,838	+ 6.03	40,918	39,558	+ 3.44
New Jersey	89,270	80,712	+10.60	431,756	405,648	+ 6.44
New Mexico	10,326	9,174	+12.56	51,831	47,475	+ 9.18
New York	189,005	174,963	+ 8.03	902,770	870,861	+ 3.66
North Carolina	38,293	36,414	+ 5.16	212,554	203,546	+ 4.43
North Dakota	15,547	12,180	+27.64	72,727	57,882	+25.65
Ohio	133,735	123,877	+ 7.96	690,955	644,453	+ 7.22
Oklahoma	45,780	42,279	+ 8.28	212,041	203,671	+ 4.11
Oregon	26,482	21,444	+23.49	121,661	110,477	+10.12
Pennsylvania	149,025	132,072	+12.84	737,642	682,859	+ 8.02
Rhode Island	12,932	11,800	+ 9.59	62,540	59,537	+ 5.04
South Carolina	19,849	17,566	+13.00	111,123	102,544	+ 8.37
South Dakota	13,436	12,731	+ 5.54	68,250	61,899	+10.26
Tennessee	29,296	21,598	+35.64	157,318	139,388	+12.86
Texas	128,624	118,836	+ 8.24	688,548	650,290	+ 5.88
Utah	10,283	9,401	+ 9.38	48,382	45,057	+ 7.38
Vermont	7,133	6,525	+ 9.32	30,498	28,558	+ 6.79
Virginia	38,304	34,161	+12.13	190,189	180,054	+ 5.63
Washington	36,829	30,644	+20.18	177,883	161,914	+ 9.86
West Virginia	20,415	18,034	+13.20	101,671	93,070	+ 9.24
Wisconsin	56,413	54,195	+ 4.09	272,797	258,718	+ 5.44
Wyoming	7,471	6,589	+13.39	31,285	29,803	+ 4.97
Total	2,267,411	2,053,981	+10.39	11,337,170	10,601,443	+ 6.94
Daily Average	75,580	68,466	+10.39	62,292	58,572	+ 6.35
Change from previous year:						
Total change	+213,430			+735,727		
Percentage change in daily av.	+10.39%			+6.35%		

A. P. I. Weekly Refinery Report

(Figures in Thousands of Barrels of 42 Gallons Each)

Districts	Daily Average Crude to Stills Week Ended Aug. 31	Daily Average Crude to Stills Week Ended Aug. 24	Per Cent of Reporting Capacity Operated Week Ended Aug. 31	Per Cent of Reporting Capacity Operated Week Ended Aug. 24	(a) Gasoline Production Week Ended Aug. 31	(a) Gasoline Production Week Ended Aug. 24	Stocks Total Finished & Unfinished Motor Fuel (b) Week Ended Aug. 31	Stocks Total Finished & Unfinished Motor Fuel (b) Week Ended Aug. 24	Stocks of Gas Oil & Distillates At Refineries Week Ended Aug. 31	Stocks of Gas Oil & Distillates At Refineries Week Ended Aug. 24	Stocks of Gas Oil & Distillates At Terms. Pipelines Week Ended Aug. 31	Stocks of Gas Oil & Distillates At Terms. Pipelines Week Ended Aug. 24	Stocks of Residual Fuel Oil At Refineries Week Ended Aug. 31	Stocks of Residual Fuel Oil At Refineries Week Ended Aug. 24	Stocks of Residual Fuel Oil At Terms. Pipelines Week Ended Aug. 31	Stocks of Residual Fuel Oil At Terms. Pipelines Week Ended Aug. 24
East Coast	600	591	93.3	91.9	1,530	1,606	21,776	21,373	8,468	8,083	8,387	7,884	6,062	5,966	5,774	5,624
Appalachian	131	125	92.3	88.0	481	441	3,320	3,385	337	332	120	125	531	511	....	....
Ind., Ill., Ky.	610	601	91.0	89.7	2,420	2,446	14,694	14,547	3,524	3,520	1,843	1,865	3,159	3,091	315	305
Okla., Kans., Mo.	275	264	85.1	81.7	(c)1,023	(c)997	6,278	6,514	1,516	1,434	99	87	2,203	2,144	....	....
Inland Texas	102	105	61.1	62.9	507	442	1,630	1,629	385	380	....	....	1,459	1,497	....	....
Texas Gulf	743	724	81.3	79.2	2,388	2,250	11,227	11,518	5,932	5,891	1,034	1,036	7,277	7,194	233	252
La. Gulf	112	100	70.0	62.5	319	279	2,502	2,554	966	1,068	18	22	1,486	1,332	198	282
No. La., Ark.	42	44	80.8	84.6	119	122	428	446	278	277	12	13	485	491	....	....
Rocky Mt.	40	52	58.8	76.5	189	219	895	964	125	124	....	....	512	543	....	....
California	548	509	75.1	69.7	1,317	1,476	15,643	15,835	8,138	8,196	1,929	1,989	54,786	54,997	22,089	21,622
Total Reporting	3,203	3,115	82.8	80.5	10,293	10,278	78,393	78,765	29,669	29,305	13,442	12,961	78,660	77,766	28,609	28,095
U. S. Total (d)	3,575	3,485			11,697	11,680	85,393	85,770	30,634	30,275	14,132	13,656	79,995	79,766	28,779	28,255
U. S. Total 8-31-39 (d)	3,472				11,661		72,335		27,371		10,255		87,204		28,410	

(a) Includes straight-run, cracked and natural blended.
(b) Includes stocks at refineries, in bulk-terminals, pipe lines and in transit.
(c) 12% of reporting capacity in this district did not report gasoline production.
(d) Estimated, U. S. Bureau of Mines basis

DEALERS ELECT NATIONAL OFFICERS

Officers shown above were elected to head the activities of the National Assn. of Petroleum Retailers for the coming year at the eighth annual convention of the association in Chicago Aug. 20-22.

M. E. Holland, Racine, Wis., seated front row center, was elected president, his second term, having succeeded Wilmer R. Schuh, Milwaukee, in 1939.

Seated, left to right are: Guy W. Runyan, Ames, Iowa, first vice-president; Mr. Holland, and Carl G. Hodges, Quincy, Ill., executive vice-president. Standing, left to right, are: Arthur T. Spence, Milwaukee, attorney; O. H. Colley, Houston, vice-president; Carl S. Johnson, Aurora, Ill., secretary; E. M. Blackburn, New Philadelphia, Ohio, vice-president; Guy Holcomb, Atlanta, vice-president. Three officers not present when this picture was taken are Richard Floyd, St. Louis, vice-president; Fred L. Brewer, La Grange, Ill., treasurer; and William B. Wylie, Los Angeles, vice-president.

NATIONAL PETROLEUM NEWS

VOLUME 32 WEDNESDAY, SEPTEMBER 4, 1940 NUMBER 36

Trainload Rate Plan Shelved As Railroad Blames Refiners

N. P. N. News Bureau

TULSA, Sept. 3.—Rock Island railroad has advised members and officers of Petroleum Rail Shippers Assn. that it will discontinue consideration of its proposal for a 1c a gal. reduction in rail rates on gasoline shipped in trainload lots of 25 cars from the southwest to midwestern and northern terminal points "until promised information is furnished" by the rail shippers.

In his letter to rail shippers, A. MacKenzie, Rock Island vice president, advised that the information from which his company could determine amount of additional revenue that might result from the trainload rates is "far from complete."

"It seems apparent at this late date," he wrote, "that we can have no assurance that the information will be furnished and as you have been advised unless the information could be had I would not attempt to further progress the subject."

"Regret very much," the Rock Island official added, "that under the circumstances I am reluctantly compelled to advise you the decision has been reached that the Rock Island will discontinue its consideration and efforts on these proposals, until the promised information is furnished."

This action by Rock Island is believed among rail shipping refiners to be tantamount to final shelving of the trainload proposal.

Data Available Elsewhere

In a letter to the Rock Island vice president two weeks ago, James F. Lawrence, counsel for P.R.S.A. explained that rail shippers were busy on several rail cases and their traffic departments shorthanded. Mr. Lawrence suggested all the information asked of rail shippers by Rock Island could be obtained "with very little effort" from two sources—state tax commissions and rails' own records.

"All these matters," Mr. Lawrence wrote, "are beside the

(*Continued on page* 23)

See New Gulf Coast Field

AUSTIN, Sept. 3.—A new Gulf Coast oil field was indicated today at South Crowley, Louisiana, with the Michael Leger No. 1 wildcat of Humble Oil & Refining Co. flowing 33 bbls. of 36 gravity crude hourly through a ¼ inch choke from 7601 feet. Production is from a Miocene formation on a salt dome prospect.

Sadler May Resign

By Telegraph
Special to N.P.N.

AUSTIN, Sept. 3. — Reports current here today that Jerry Sadler will resign soon as member of Texas Railroad Commission brought from Sadler this comment, "I have nothing to say about that right now."

Reports are Mr. Sadler will enlist in one of the U. S. air services. He has been taking private flying lessons but does not hold a private pilot's license yet.

States Ignore Compact Views On Allowables

N. P. N. News Bureau

TULSA, Sept. 3.—Oil regulatory bodies of Oklahoma, Kansas and Texas are confronted with a dilemma. With a widening market for their oil, they are faced with the compact's recommendation that allowable crude production be curtailed 5% below the Bureau of Mines' demand forecast.

One by one, however, they are shying away from the compact commission's recommendation, in favor of a policy that will enable them to "welcome home" prodigal oil markets which had been attracted to Illinois.

Texas Leads Off

The Texas Railroad Commission stepped out first with a 90-day proration order covering September, October and November and calling for a basic allowable of 1,647,725 bbls. daily. In analyzing this figure and after much computation, the commission announced though that average daily allowable for September would probably be 1,266,065 bbls. daily.

The Texas order calls for 9 shutdown days during each of the three months.

It is virtually impossible in analyzing the Texas order to estimate what actual production will be during any given period covered in the order. In the first place, the list of shutdown exemptions released along with the order reads like the New York City telephone directory. Texas begins the first day of September with a list of shutdown exemptions covering 137 pools. This isn't all—all wells in all fields in "District 10 (Panhandle)" are exempt from the shutdown order. More hearings for exemption from the shutdown and others asking for increased allowables are scheduled and expected to swell Texas' actual production.

One analysis of the Texas order estimates that after deductions have been made for exemptions, underproduction, etc., allowed production will run about 4% below the Bureau of Mines'

(*Continued on page* 15)

Two More Oil Men Join Defense Set-Up

N. P. N. News Bureau

WASHINGTON, Aug. 31.—Charles Francis, Houston, Tex., lawyer, has been named as consultant to War Secretary Stimson in connection with the national defense program.

Duties of Mr. Francis will be those of general consultant on defense problems and, in view of his experience, he naturally will be called in on questions relating to oil, War Department officials said.

Mr. Francis was an attorney with the Petroleum Administrative Board in the early days of NIRA, was formerly chairman of the American Bar Association's mineral law section, and represented Pure Oil Co. in the Madison oil trial.

Charles Francis

* * *

Heads Training Plan For Defense Workers

N. P. N. News Bureau

WASHINGTON, Aug. 31. — Appointment of Channing R. Dooley, industrial relations manager, Socony-Vacuum Oil Co., as director in charge of the program for training workers within industry, has been announced by Sidney Hillman, labor member, of the National Defense Advisory Commission.

Mr. Dooley as a member of the War Resources Board during the World War helped develop intensive training techniques.

NEW YORK — Channing R. Dooley, Socony-Vacuum Oil Co.'s industrial relations manager, has been granted leave of absence with full pay to engage "in this important work for which he is so well qualified," said a company statement following his appointment to defense commission.

Channing R. Dooley

Salaried Employes Exempted From Hours Law, Court Holds

N. P. N. News Bureau

WASHINGTON, Sept. 3.—Whether the federal wage and hour act limitations on hours applies to salaried employes may be decided in a case involving the Howard County Refining Company, of Big Spring, Tex., according to the Labor Department wage and hour division.

Case is being watched with intense interest by the division, which feels the Northern Texas federal district court has misinterpreted the law in finding the wage and hour act does not apply to a salaried employe.

Position of the division has been that the law contains no exemption from the 42-hour week for salaried employes, and it expects to intervene as a friend of the court, at such time as the case is appealed, to argue that an employer must pay time-and-a-half for overtime, irrespective of whether the worker is on a salaried or hourly wage basis, or how much he makes.

Howard County Refining case was described as one of those civil damage suits which, under the wage-hour law, may be brought by employes against their employers to recover double the amount of alleged unpaid overtime for hours worked in excess of 42 per week.

Reasoning of the Texas federal district court in the case is not clear, lawyers of the wage and hour division claim, since only one salaried employe was found exempt from the act while several others were awarded double damages. Case, nevertheless, provides grounds for an important test of the coverage of the wage and hour act, it is contended.

Word received by the wage and hour division from its Texas staff indicates the case will be appealed to the Fifth Circuit Court of Appeals in the near future.

Treble Damage Suit Slated for Hearing

N. P. N. News Bureau

CHICAGO, Sept. 3.—Hearing on treble damage suit of Cook Brothers Oil Co., Menominee, Minn., based on Madison oil case, has been set for Sept. 16 in Federal District Court at Minneapolis, it was learned here. Complaint asks injunction restraining other Mid-Western jobbers from filing similar suits and asking that this be made a "representative proceeding" for the some 4000 jobbers operating in 9 Mid-Western states between 1933 and 1938.

First treble damages suit involving Madison case, which was filed in June, 1938 by the Twin Ports Oil Co., a former Duluth, Minn. jobber, comes to trial Oct. 7 in Minneapolis.

Plans For Storing Army and Navy 'Gas' Nearing Completion

N. P. N. News Bureau

WASHINGTON, Sept. 3.—Plans for Federal facilities to store a substantial part of the proposed Army and Navy 100-octane aviation gasoline reserve have been completed, Dr. R. E. Wilson, national defense advisory commission oil adviser, reports.

NDAC's advisory committee of terminal engineers is now cooperating with the Army and Navy in selection of specific sites for dumps, Dr. Wilson states, adding the general idea is to locate them near naval bases and air fields.

Completion of site selections is expected within three weeks, and this will permit start of construction with the $7,500,000 Congress is making available, Dr. Wilson said. Latest developments point to half of the 7,500,000 bbl. 100-octane gasoline reserve being stored in government tanks, and the balance at refineries on a rental basis.

Texas Studies Rules For Submerged Wells

Special to N.P.N.

AUSTIN, Sept. 3.—Representatives of virtually every major oil company were present at Texas Railroad Commission meeting today which discussed more adequate protection for oil wells drilling in submerged areas along the Texas Gulf Coast.

Gladdis Bass, expert for the state land office, which holds most of the submerged oil areas for the benefit of the state permanent school fund, said he thought some kind of "cage" ought to be built around the well-heads of submerged wells to protect them from sea hazards, and thought each should be equipped with a storm choke for protection in case of a storm.

Bass said he had requested the hearing to obtain expert testimony from engineers and operations supervisors on the best completion methods.

Phillips Is 'Ringmaster' At Circus for Children

"This is the biggest party that ever attended the Ringling Brothers and Barnum and Bailey circus; here's my whistle, you take charge, it's your party." With these words John Ringling North Sept. 1 turned over his big show to Frank Phillips and a gang of about 5300 Bartlesville, Okla., youngsters, his guests for the day.

And all of them—including Mr. Phillips, who is chairman of Phillips Pet. Co.'s board—did take over the big circus. A grand time was had by all.

This isn't the first time Mr. Phillips has "bought out" a circus for a day. It's getting to be an annual affair with him.

Texas Commissioner Would Ban Politics

Special to N.P.N.

AUSTIN, Tex., Sept. 3.—Olin Culberson, new member of Texas Railroad commission succeeding Lon Smith, said today he favors a law which would prevent members of the commission from seeking other elective offices during or immediately following their terms on the commission.

The commission has so much power over the oil industry, Mr. Culberson pointed out, "that every safeguard should be taken to prevent any political advantage from being exercised by a commissioner."

During the past summer, two members of the commission—Col. E. O. Thompson and G. A. "Jerry" Sadler—unsuccessfully sought nomination for governor. They did not resign their positions on the commission to make their campaigns.

Pepper Prepares Bill For Industry Control

N. P. N. News Bureau

WASHINGTON, Sept. 3.—Senator Pepper, Florida, who is working on legislation that might mean federal control of oil industry in the name of national defense, says he expects to have the measure ready for introduction in the Senate by next week.

As projected by Pepper, the bill will be broad enough to cover any industry the government finds it necessary to control in order to expedite the national defense program.

Senator Pepper has reached no conclusion on whether his bill will authorize the government to take over industries outright, or merely to direct their management policy, he says.

Penn Crude Cut Now Totals 90c In Four Months

N. P. N. News Bureau

CLEVELAND, Aug. 30.—The 15c per bbl. reduction in Pennsylvania grade crude oils made by all leading purchasers Aug. 28, was the fourth reduction in the price of this oil since May 22, with the drop totaling 90c per bbl.

The reduction in Pennsylvania grade crudes was initiated by Valvoline Pipe Line, when that company announced on Aug. 27 that it was posting new schedules 15c below its previous postings for all Penna. oils. Valvoline's new posting for Bradford oil purchased in Elk and McKean counties was $1.85.

Joseph Seep Purchasing Agency, Tide Water Associated Oil Co. and Pennzoil announced similar reductions in their schedules early Aug. 28.

From $2.75 to $1.85

On Jan. 1 of this year, Bradford oil reached a price of $2.75 per bbl., the highest it had been since June, 1937. However, from the impact of lost export markets, and a consequent build-up of lubricating oil stocks, the price of Pennsylvania grade crudes began to slip. On May 22 all grades were cut 25c per bbl. making the new price for Bradford oil $2.50.

Successive drops of 25c per bbl. followed on June 18 and July 12, resulting in a $2 posting for Bradford grade. Leading purchasers continued to post this price until the Aug. 28 cut of 15c was announced. However, Bradford Oil Refining Co. had posted a flat price of $1.75 per bbl. for Bradford oil, but leading purchasers of this grade did not meet the reduction.

New Mexico Sets Quota

By Teletype

SANTA FE, Sept. 3. — New Mexico's crude production allowable, announced today at 100,300 bbls. daily during September, represents a 4.75% cut below the Bureau of Mines' demand forecast. New Mexico is only state so far to even approximate the recommendation of the Interstate Oil Compact Commission for a 5% cut in allowables below the Bureau's forecast.

September allowable is 1700 bbls. below the August order and 5000 bbls. below the Bureau's demand estimate.

Compact Plan Ignored As States Set Quotas

(*Continued from page* 13)

September forecast. But the majority of observers label the Texas order as "confusing," adopting the attitude of "let's wait and see what actually happens."

In justifying the order, Texas Railroad Commissioner E. O. Thompson stated "the order is designed to cut the demand for imported foreign oil. If we do not let the oil companies buy the oil they need in Texas they will import it."

Kansas Demand Up

When Kansas producers and purchasers met in Wichita Aug. 29, their crude purchase nominations totaled approximately 186,000 bbls. daily average for September. These nominations were 6270 bbls. daily above the August figure and about 15,300 bbls. above both Kansas' August allowable and the Bureau of Mines' September demand forecast.

Disappointment was indicated in some quarters that purchase nominations for Kansas crude in September were not larger. It was pointed out, however, that nominations probably represented a part of this increased demand. That part not reflected in current purchase nominations, it was believed, will probably be supplied from storage.

The Kansas commission is faced with the same dilemma as other compacting states. In addition there is a campaign pledge by Kansas Governor Ratner that he would support efforts to widen and increase the market for Kanasas oil. In speaking of the Kansas situation Corporation Commission Chairman Schoeppel stressed that purchase nominations totaling about 186,000 bbls. represented actual and firm demand for oil.

The old question of whether Kansas' "log-log" curve method of distributing the state's market demand will act as a bottleneck between Kansas producers and their increasing markets was unanswered at the end of last week's hearing. Hope was expressed among some observers that this proration method might be liberalized to prevent bottlenecks. Kansas crude under the "log-log" plan is distributed equably between pools and wells within the pools, irrespective of availabilty of crude to potential market. Thus a part of any market demand increase may be allocated to a pool or field off the beaten track and without pipeline or transportation facilities. To take advantage of that increased allowable from the out-of-the-way field, either a producer must make a trade arrangement with some other buyer, or make arrangements to transport the oil to some assembly point on a railroad or pipeline. It was believed here that few buyers would spend money on pipeline extensions, when they are already hooked up to wells potentially able to supply all their demands. The question arises, will the commission allow a purchaser, who has demand for crude anywhere within reach of his transportation facilities, buy elsewhere rather than extend his transportation facilities to other Kansas pools? It is believed doubtful Kansas will follow the compact recommendation and disregard a possible increase in market demand.

Oklahoma Holds Off

Conflicting reports regarding market demand for Oklahoma crude late last week caused the Oklahoma Corporation Commission to continue to Sept. 9 its statewide proration hearing, according to Conservation Officer Armstrong. Meanwhile, Oklahoma producers will operate under the August allowable order calling for maximum allowed output of 390,000 bbls. daily.

Between now and Sept. 9, the commission's conservation officer will make an independent survey among producers and purchasers to find what he called "the real market demand situation."

Wide selection of crudes is produced in Oklahoma, and producers anticipate a substantial participation in those markets released by Illinois. While Kansas has a slight transportation advantage, it has been pointed out that most Kansas oil is of one type and that market for selective or specialty-type crudes probably would be supplied from Oklahoma. Oklahoma producers and purchasers, for the most part, registered disfavor at last week's proration hearing to the suggested 5% cut in Oklahoma allowable below the Bureau's forecast. They indicated a market demand for September approximating August's allowed production of 390,000 bbls. daily.

Indications right now point to an unchanged September order —390,000 bbls. daily. Mr. Armstrong told NATIONAL PETROLEUM NEWS late last week. He pointed out, however, that the order would be based on what his department found to be "market demand" and that nothing official would be forthcoming until after Sept. 9.

Louisiana Unchanged

September allowable production in Louisiana and Arkansas — not vitally affected by the switch in demand from Illinois to the Mid-Continent—will be unchanged from August. Arkansas's order calls for a 74,000-bbl. allowed production, 4300 bbls. above the Bureau of Mines' demand forecast. Louisiana upped its September allowable only 234 bbls., to 274,854 bbls., 154 bbls. above the Bureau's forecast.

Gasoline Consumption Shows Increase In 47 States During First 6 Months

N. P. N. News Bureau

NEW YORK, Sept. 3.—Domestic consumption of motor fuel in the U. S. increased 6.35% in the first 6 months of this year, compared with the first half of 1939, according to a report of consumption compiled from gasoline tax records by the American Petroleum Institute.

All states in the country, with the exception of Nevada shared in the increased demand for gasoline, in the first half of 1940 with a percentage increase of 25.65% in North Dakota leading all states. Montana consumption rose 13.98%, while increases of more than 10% were recorded in 6 other states, Tennessee, Indiana, Florida, Idaho, South Dakota and Oregon.

Of the 5 large consumption states of California, New York, Illinois, Ohio and Pennsylvania, the latter 3 had gains larger than the country as a whole, increasing 8.32%, 7.22%, and 8.02% respectively. Gallonage in California and New York was up 5.50 and 3.66%, respectively.

Gallonage in June of this year jumped 10.39% over consumption in the same month last year, the A. P. I. reports. This jump, it is believed, was largely due to increased buying of gasoline, prior to the enactment of the additional 0.5c "defense gasoline tax," effective July 1. (See Page 11 for detailed figures by states.)

New Canadian Refinery Nears Completion

Special to N.P.N.

OTTAWA, Canada, Sept. 3.—Built to operate on Turner Valley crude oil, the new refinery of North Star Oil, Ltd., at St. Boniface, Manitoba, with a capacity of 2000 bbls. daily, is nearing completion. The cost is in the neighborhood of $300,000. The refinery is equipped with a Dubbs cracking unit.

Pollution Bill Dead For Current Session

N. P. N. News Bureau

WASHINGTON, Sept. 3.—Senator Barkley, of Kentucky, has come to the conclusion the stream pollution bill bearing his name has become enmeshed in a seemingly hopeless legislative deadlock and may as well be considered dead for this session of Congress.

The Kentucky Senator insists that he will not accept the drastic Mundt amendment requiring federal stream pollution permits, which was tacked on to the measure when it passed the House.

Bill is now in conference where the House conferees are refusing to recede from their contention that the pollution legislation, when sent to the White House for President Roosevelt's signature, must include the Mundt amendment.

Present impasse involving the Barkley bill stems from the action taken by the House in early July, when it refused by a vote of 199 to 154 to drop the Mundt amendment in favor of the more moderate Senate proposal which called for a study of the stream pollution problem.

Court Frees Ickes In Suit for 'Libel'

N. P. N. News Bureau

WASHINGTON, Aug. 29. — Dismissal of a $750,000 libel suit brought against Interior Secretary Ickes and relating to a press release issued by the latter, dealing with solicitation of funds for proposed fight for changes in the enforcement of the Connally "Hot" Oil Act, has been upheld by the District of Columbia federal court of appeals.

Suit was brought in the District of Columbia federal court by John D. Glass, a Tyler, Tex., attorney, who claimed a press release issued by Ickes was defamatory to him.

Circuit court held the release was "privileged."

Chief Justice Lawrence Groner, in a separate concurring opinion, criticized the manner in which the decision broadened the scope of official authority, saying:

"I express with great deference the fear that in this and previous cases we have extended the rule beyond the reasons out of which it grew, and thus unwittingly created a privilege so extensive as to be almost unlimited and altogether subversive to the fundamental principle that no man in this country is so high he is above the law."

Synthetic Rubber Project For Defense Faces Hurdle

N. P. N. News Bureau

WASHINGTON, Sept. 3.—Development of a national defense program for the manufacture of synthetic rubber depends largely upon whether the government is willing to go ahead with the project, knowing that additional plants may have to be underwritten by the government, according to the office of Dr. R. E. Wilson, defense commission oil adviser.

Surveys of the rubber substitute situation which have included conferences with members of the petroleum, chemical and rubber industries, are more or less completed. Dr. Wilson has taken up the matter of financing new synthetic rubber plants with the Reconstruction Finance Corporation, government lending agency.

Should the RFC find itself unable to underwrite the synthetic rubber program, the defense commission is expecting to lay the problem before Congress where there has been considerable agitation of late for additional synthetic rubber production.

Productive capacity of the plants Dr. Wilson would build under his program is a defense secret.

Present Output is 6000 Tons

Present production of synthetic rubber is 6,000 tons a year, with a normal increase to 10,000 or 15,000 tons expected within the next year, according to sources outside the government.

Should the government stimulate the expansion of productive capacity to 60,000 tons in the near future, this would permit rubber substitutes to take care of 10% of the nation's normal consumption of crude rubber, which amounts to 600,000 tons annually.

While picturing the outlook for the synthetic rubber program as gloomy from a financial standpoint, Dr. Wilson's office says some of the plants probably will be used for manufacturing rubber substitutes for novelty purposes. Reductions in price more in line with costs of crude rubber would, of course, tend to diminish the government's financial loss in subsidizing production of the rubber substitute.

Studies made by Dr. Wilson have shown the only justification for the government building artificial rubber plants lies in the need for something to fall back on in case the crude rubber supply from the Dutch East Indies is cut off or curtailed in the next year or so, his office says.

United States now has a nine months supply of crude rubber on hand and is unable to build this up to an 18 months reserve immediately—18 months being the time required to bring new synthetic rubber plants into production.

California Exports Down, Despite Loosening of Ban

N. P. N. News Bureau

LOS ANGELES, Aug. 31.—Although much of the uncertainty regarding export licensing regulations has been cleared up by rulings of the State Department, shipments of petroleum products from Pacific Coast ports have not regained their normal level. During the period of doubt, some refineries continued to forward to the terminals supplies that had been ordered for shipment before the export ban was announced. According to reports, this resulted in congestion at the terminals and hampered the movement of products that were, later, given export licenses.

Difficulties were also said to have been encountered in adjusting refinery schedules to meet the changed conditions, particularly in regard to aviation gasoline, which, even prior to the embargo, was said to have been produced considerably in excess of demand. It has been estimated that unless a reduction is made in the output, nearly 20 per cent of the current refinery production of aviation gasoline will have to be put into storage.

Liberal granting of licenses with a few exceptions, for the shipment of crude oil from California is the present policy of the state department at Washington, according to a telegram sent by Sumner Welles, acting secretary of state, to the Oil Producers Agency here.

In an effort to clarify the definition of "aviation gasoline" given in the President's proclamation of July 26, the Agency questioned the State Department with regard to the content of 87 octane material in normal California crudes and as to whether a 3% content of such material, recoverable under specialized refining methods, would prohibit shipments of the crude outside the western hemisphere. The text of the telegram received in reply was as follows:

"Reference to your telegram August 15, to the Secretary of State and similar message referred to the Department by Senator Hiram Johnson, the issue you raise has been referred to the Administrator of Export Control, (Col. R. L. Maxwell) who informs the Department that if your product falls technically under the definition of aviation fuel, as defined in the President's proclamation of July 26, 1940, you must apply for an export license. That application should be supplemented with a statement that it is impracticable to make a high grade aviation fuel of this material. In any case, licenses are being issued freely for the export of all crudes except those mixed with iso-octane, isopentane, neohexane or alkylates."

Following the receipt of the above telegram, and similar statements by the state department to other inquirers, California oil companies were reported to be applying for licenses for a number of cargo shipments that had been held up since Aug. 1.

Canadian Crude Output Down

MONTREAL, Aug. 29.—Canadian crude petroleum production totaled 657,098 bbls. in June against 676,486 bbls. in May and 821,308 bbls. in June, 1939, according to a report from the Dominion Bureau of Statistics.

Cumulative production for six months was 3,681,029 bbls. compared with 3,371,238 bbls. in the like period of 1939.

No Signs of Lifting Ban on Aviation 'Gas'

N. P. N. News Bureau

WASHINGTON, Sept. 3.—State Department officials continue to report no developments which might mean an early modification of President Roosevelt's ban on shipments outside the Western Hemisphere of aviation gasoline, aviation-gasoline crude, high viscosity lubricating oils and tetraethyl lead.

Exports licensing embargo on aviation gasoline has been in effect for a month. International observers here expect it to remain in force for quite some time, in view of the critical diplomatic situation in the Pacific.

Cottrelle Studies Canadian Industry

Special to N.P.N.

OTTAWA, Aug. 31.—In order to obtain a complete picture of the Canadian oil industry, Oil Controller George R. Cottrelle has sent out questionnaires to the distributing, refining, producing and other branches of the oil industry.

Compilation of the information to be received will begin shortly and future policy based on the facts obtained. Next month Mr. Cottrelle proposes to make a tour of the oil-producing areas of Canada to ascertain the possibilities of increasing production. He has stated in public interviews that every encouragement possible will be given to the increase of crude production.

Oil Exports Down, Imports Up Bureau of Commerce Reveals

WASHINGTON Aug. 31.—Preliminary figures issued by the Commerce Department for July show declining exports and mounting imports of petroleum and its products. Details follow:

	July		Seven Months	
EXPORTS	1939	1940	1939	1940
"Gas" and other motor fuel (1,000 bbl.)	2,970	1,278	21,757	11,565
($1,000)	7,551	3,766	53,817	38,183
Lubricating oil (1,000 bbl.)	1,012	726	6,227	11,565
($1,000)	7,837	6,497	44,271	38,183
Crude petroleum (1,000 bbl.)	7,296	5,607	42,245	32,085
($1,000)	9,393	7,517	54,590	42,655
Paraffin wax ($1,000)	554	391	4,313	7,675
Gas and fuel oil (1,000 bbl.)	3,671	2,627	27,118	19,553
	4,215	2,921	32,180	23,110
IMPORTS				
Crude petroleum (1,000 bbl.)	3,061	3,849	19,338	22,199
	2,150	2,967	13,222	16,455
Gas oil and fuel oil* ($1,000)	901	1,851	6,757	15,554

*Partly oil used for refueling vessels and for refining and export.

THE EDITOR'S PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and Publisher, Penton Building, Cleveland, O.

Say It in 'Tenths' and Save Accounting Headaches

Every time we have to wrestle with oil industry tank car prices, we curse the day that the industry began using quarters and eighths in figuring cents per gallon. And we wonder why the accounting and bookkeeping departments have not risen in wrath and required the adoption of decimals—tenths of a cent.

Maybe we can start an insurrection right now!

How much simpler would it be in making all the thousands of figures that are computed and written every day throughout the oil industry if the decimal system of using tenths of a cent were adopted?

Instead of having to translate ⅝ into .625 and then add some funny three or four placed freight rate figure on top of that, why should not the industry cut the cent into "tenths," and save adding two extra figures?

If the industry wants to cut the cent up into smaller pieces it can easily do so by making it .01 (hundredths).

Perhaps some hard working accountant may be able to figure up how many people working how many hours are wasting that time in adding odd figures in quarters and eighths instead of in tenths. If there are 10,000 computations a day and a minute could be saved for each one, we have almost 21 working days right there, to say nothing of all the headaches from mistakes which must necessarily be more numerous with two and three figure amounts instead of with just a single figure?

Multiply that by 300 working days in the year and we have 6,000 working days, in ten years 60,000 working days and after that it mounts up to the time of a whole regiment or two.

It can be changed quickly and easily. No act of Congress is required. No meeting of a national society of experts. It is not necessary even for our best oil minds to get together and "conspire" to save expense which, of course, would be viewed with "great suspicion" by our ever suspicious Department of Injustice.

The costly and exasperating practice of years can be changed by the man who issues tomorrow morning's prices and quotations for each company just by NOT making a price with a fraction of a quarter or an eighth. All he need do is to give his price in tenths and the deed is done. His customer cannot object because a price is a price no matter whether it is a full cent or any fraction thereof.

Then that courageous individual's competitors may sense the brilliant stroke that has been done for the good of accountants and civilization in general, and "meet the competition." That cannot well be considered a "crime" for certainly many an oil man has met worse "competition" than that in his day.

All right. A sound idea, you say. Well who is going to tell Oilgram's market checkers tomorrow morning, as they call a few hundred oil men, that his price is going to be in tenths instead of quarters and eighths hereafter?

We cannot very well stick a stone or bronze tablet right in these pages but we assure that adventuring and kindly considerate individual that we will do all we can to graven his name and memory in the minds of thousands, yea, tens of thousands of accountants and bookkeepers and their oil progeny, all down through the ages.

This industry spends hundreds of millions for research and development, why can't this wonderful industry do just this little thing for the army of pencil and computing machine pushers?

Comes Price Recovery and, Probably, an Accusing Finger

The same old story is happening again in this oil industry, just as it has been happening for more than three-quarters of a century.

An old field that is blowing great guns and has every one scared and has knocked the price down, blows up. Where is the next field? It's like the cry in the kingdoms of old "The King is dead, Long Live the King."

This is written of the "new" Illinois field, that one that "came in" a couple of years ago, was drilled to 517,000 bbls. a day and in the last several weeks has dropped back 125,000 bbls. a day, and will undoubtedly go on down until there is nothing left but a few hundred creaking pumping jacks rising and falling in the wheat or corn for a few hours a day.

It was confidently predicted last winter by many experts that the Illinois field would be falling off rapidly about this time. That is how highly developed the science of oil field engineering is.

But until that field actually dropped considerably every one was afraid of it. The field has been a costly one to a large part of the oil industry, especially the producers and refiners of the Southwest. It has been most valuable to the relatively few companies who got in and bought the oil. It brought the usual quick money to many small producers and refiners who rode on its flush flow, but now many of the refineries are closed probably never to start up again. Remains of such refineries are to be found around all boom fields.

But despite the fact that the industry has seen this story many many times in its life, each time the story comes, prices suffer. Even though we realize that the end of the boom is in sight, prices still suffer. The field must be dying before the industry's hopes rise far enough for sellers to raise their prices.

The hazards to the industry of this seemingly-final decline in this "new" Illinois field are that some critics of the industry may fail to state the sound economic reason for the prices improving, and other critics may seize on the decline to talk about "scarcity for war purposes." Most anything can happen these intolerant and electioneering days.

Prices of Illinois crude are rising, and it is safe to say if the Illinois field continues to decline there will be a general crude price advance. With the advance in crude price there should be advances in tank car, tank wagon and retail prices. These will not be any great amounts, in fact hardly noticeable to the public though boons to the oil industry. The immediate marketing area in and around Illinois should show marked improvement from its cut-price character of recent years.

Every price advance should be explained to all company employes, as well as a sound explanation offered to the public, whether the public wants to read it or not. Facts and reasons should be given to oil company employes, to allied oil marketers and to all dealers so that at least all oil men have the truth clearly in mind.

Then, should some of our demagogic office holders and office seekers try to hoist the industry onto their political crosses, their false statements should be promptly and bluntly met with the truth.

Sad as it may be to contemplate, it is a good bet that any sizeable adjustment in the industry's prices upward will be greeted with false charges by those who have other fish to fry.

Oil Competition to the Death

The attention of every oil man who has harbored the thought that "government" can be invoked to eliminate some of his business problems, is invited to the detailed story in last week's issue of NPN about what the New Deal's Department of Justice is really trying to do for "competition."

The story was gathered first hand by our news editor, a former resident and newspaperman in Washington. The sources of his information are as reliable as can be had in Washington these days. The story is about the proposed New Deal "Divorcement" suit. The part to read right now is in the fourth column of page 14 of our Aug. 28th issue.

There it is accurately reported on the best of authority that what the New Deal is proposing to do is not to get prices up and see how many people, particularly "small business men" it can keep in business, but rather the New Deal is carrying on a policy of using every means at its command, fair or foul, to drive all prices down. The New Deal wants to make competition so keen, it is reliably said, that only the absolute 100% fittest can survive. The New Deal decidedly wants lower and still lower prices, no matter what happens to the "small business man." That is his look out.

What the New Deal expects to accomplish with this Oil Divorcement suit, if it is filed, are lower gasoline and oil prices,

the elimination of all premiums on gasoline, and a great reduction in the number of service stations and bulk plants.

This, of course, is an appeal to the maximum number of voters. It is "good practical politics." But that is something so many business men refuse to understand. They take their problems to Washington believing that because they are tax payers they will get real attention. These business men believe the soft words that are often spoken to them, but they do not awake to the fact that the selfish interests of the average office-holder whether elected or appointed, civil service or otherwise, is to take up issues that will gain the support for the office-holder of the largest number of voters, and to get all the money possible for himself to spend and to hire all the help his blandishments of Congress will permit.

Practically all business men—big and little—who seek aid of Government are bothered or suffering from serious business trouble, else they would not be going to Washington. Generally they seek some relief, direct or indirect, from some form of competition, which they generally believe is unfair. Those who are getting along all right and are making comfortable profits generally stay at home.

Correcting evils, actual or fancied, is one thing. But now the New Deal says that whatever evil there may be in the present oil industry set-up it is not only going to "correct" but then it is going further and try and force a severity of competition that will eliminate all uneconomic operations, so that prices to the consumer may be materially reduced.

There can be no question of this being the New Deal's objective. Much has been said by many of its luminaries all these years, and it is right well summed up and spoken publicly by the present head of the Anti Trust Division, in his speeches and in his books, one to be published in a few days.

Probe Of Mexican Imports Asked of Hull by I.P.A.A.

WASHINGTON, Sept. 4. — Treasury Secretary Henry Morgenthau was asked today to investigate the importation of Mexican oil into the U. S. by Russell Brown, General Counsel, Independent Petroleum Assn., of America.

Mexican petroleum is being imported to this country at such prices and in such quantities as to substantially injure the domestic petroleum industry, Mr. Brown declared, saying, "he would respectfully request that you take steps to make the investigation provided under those laws in order that the damage being done to the domestic petroleum industry may be checked at the earliest time."

Investigation would be made under authority of the Federal Anti-Dumping law, which were adopted to meet such a situation as now exists, Mr. Brown said.

The IPAA general counsel's letter to Morgenthau continues:

"Data compiled by the Bureau of Foreign and Domestic Commerce on petroleum shows that during the first five months of the present year petroleum imports from Mexico amounted to 4,486,501 barrels as compared with 70,831 barrels during the corresponding period last year. These imports are increasing at a rapid rate. During January of the present year they averaged 13,000 barrels per day. In May, the latest month for which official figures are available, they have risen to an average of 40,000 barrels daily.

Sinclair Contract

"One company alone has a contract with the Mexican Government for 20 million barrels of crude petroleum to be of not less than 30 gravity and to be delivered on tankers at the Mexican port of Tampico or Tuxpen on the Gulf of Mexico. Five million barrels of this crude are to be delivered each year. The price of the first 5 million barrels is to be 60c per barrel, U. S. currency, delivered on tanker. This contract is held by the Sinclair Refining Company, a wholly owned subsidiary of the Consolidated Oil Corporation. Testimony concerning it was given at a hearing held by a subcommittee of the House Committee on the Judiciary when it was considering H. R. 9669, a bill to embargo importation of confiscated property. Mr. Pat Hurley, Counsel for the Sinclair Refining Company, at that time put into the record the contract between his company and the Mexican Government. While this contract was not made available to the general public, it doubtless can be viewed by a representative of the Treasury Department.

"The 5 million barrels covered by this contract can enter our domestic markets at a cost between 30 and 40c per barrel below the cost of the domestic product or approximately one half the domestic cost in the same market after payment of the excise tax.

"The lowest cost domestic oil comparable to this Mexican oil is found in New Mexico where the posted price is 81c per barrel. To get this oil to the port of Houston, Texas, gathering charges ranging from 5 to 10 cents a barrel, pipe line charges of 22½ cents a barrel and a lighterage charge of 2 to 3 cents a barrel have to be added to the well price of 81 cents per barrel, making a total, roughly, of $1.10 a barrel delivered on a tanker. Since the tanker rates from Mexican ports to the Atlantic Seaboard are the same as the rates from a Texas port, this Mexican oil would reach our markets with an advantage of at least 30 cents per barrel over the domestic product after payment of excise taxes."

In his letter, Mr. Brown also called attention to the fact that Eastern States Petroleum Corp. has been importing Mexican crude to its Houston refinery.

No Mexican Oil Dumped, Says Customs Official

WASHINGTON, Sept. 4. —William R. Johnson, Federal Commissioner of Customs, in an informal statement today declared there is nothing to support charges of dumping Mexican oil in the U. S. Customs bureau has already investigated the matter under the federal anti-dumping statutes, and failed to develop evidence to support the dumping charges, Mr. Johnson said.

Mann Is Nebraska Secretary

OMAHA, Sept. 3.—A. H. Mann, of Omaha, has been appointed executive secretary of the Nebraska Petroleum Marketers, Inc., headquarters of which have been moved from Lincoln to 203 Sunderland Bldg., Omaha.

RFC Banker Heads 'Gas' Buying Agency

N. P. N. News Bureau

WASHINGTON, Sept. 3.—Sam H. Husbands has been named president of the new Defense Supplies Corporation, which has $50,000,000 in RFC funds available to build up the proposed 7,500,000-bbl. Army and Navy 100-octane aviation gasoline reserve.

Mr. Husbands is a member of the Board of Directors of the Reconstruction Finance Corporation, a banker by profession and a native of South Carolina. He started with the RFC as an examiner and had worked up to his director job by 1939.

In addition to being an RFC director, Husbands is president of the Federal National Mortgage Assn., a director of the RFC Mortgage Co., and a trustee for the Electric Home and Farm Authority.

BULLETIN

WASHINGTON — Justice department sources today declined comment on reports that the defense commission is willing to give its consent to filing of the anti-trust oil divorcement suit, subject to such later changes as may be indicated necessary by national defense needs.

Shortage of Tires Seen by Canadians

Special to N.P.N.

OTTAWA, Sept. 3.—Taxing of the capacity of Canada's rubber tire industry to its utmost by the war needs of not only Canada, but also of Overseas Empire countries, may cause a shortage of tires for civilian purposes, according to fears expressed here.

It is said there is practically no tire and tube making capacity available in the Dominion that is not in use now. Hon. C. D. Howe, Minister of Munitions and Supply, told the Canadian House of Commons recently that Canadian factories were producing mechanized units for the armed forces at the rate of 600 a day and that this was to be substantially increased by the end of the year.

Government orders for tires are said now to approach about 625,000, or approximately one quarter of all pneumatic tires produced in 1938.

Australia, New Zealand, South Africa and India have all placed large orders in Canada for mechanized army transport vehicles. Canadian rubber companies get 90% of their crude rubber supplies from Empire sources. After purchase it takes from 3 to 4 months for a shipment of rubber from the British East Indies to reach Canada, as compared with 4 to 6 weeks before the war.

Cincinnati 'Gas' Price Down

N. P. N. News Bureau

CLEVELAND, Sept. 3.—S. O. Ohio has announced 0.5c reduction in gasoline prices at Cincinnati, effective Sept. 3. New X-70 (regular) prices, ex taxes, are: divided dealer t.w. 8.5c, retail at company operated stations 11c.

OIL TAX NEWS

Minnesota Keeps Its Word, Letting 'Emergency' Tax Die

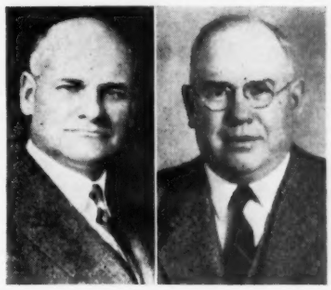
N. P. N. News Bureau

CLEVELAND, Sept. 3. — The termination, Sept. 1, of Minnesota's 1c emergency gasoline tax marks the first such elimination of an "emergency" state gasoline tax levy since 1939.

Despite agitation of consumer groups and the oil industry, similar levies have been extended in other states from year to year, and now remain in effect in Florida, Massachusetts, Montana, Nebraska, New Hampshire, New York, North Dakota, Ohio, Pennsylvania, Tennessee and West Virginia.

While the Minnesota reduction is the first to occur since 1936, several other state "emergency" levies are due to expire next year. The Minnesota tax went into effect in 1937 when the state's 3c per gallon rate was raised 1c to obtain money to match federal funds for highway construction.

Leading the fight against reenactment of the 1c tax, Roy Dunn, majority floor leader of the Minnesota House of Representatives pointed out that less highway construction was accomplished under the 4c tax, than under the previous 3c levy. He argued that the additional tax had been enacted as a temporary measure only, and that a reasonable limitation of revenue would prove a practical factor in correcting extravagance and waste.



Roy Dunn *L. A. Rossman*

'Must Cut Taxes'

Discussing his reasons for sponsoring the abolition of the emergency tax, the Minnesota legislator said, "Somewhere, sometime, somehow, we must start cutting taxes, and this temporary 'gas' tax provided a good beginning. Here was a tax which could be abolished without replacing it with another tax. Reasonable limitation of revenue is always a practical factor in prompt correction of extravagance and waste and in the creation of a foundation of efficiency and accomplishment for the future.

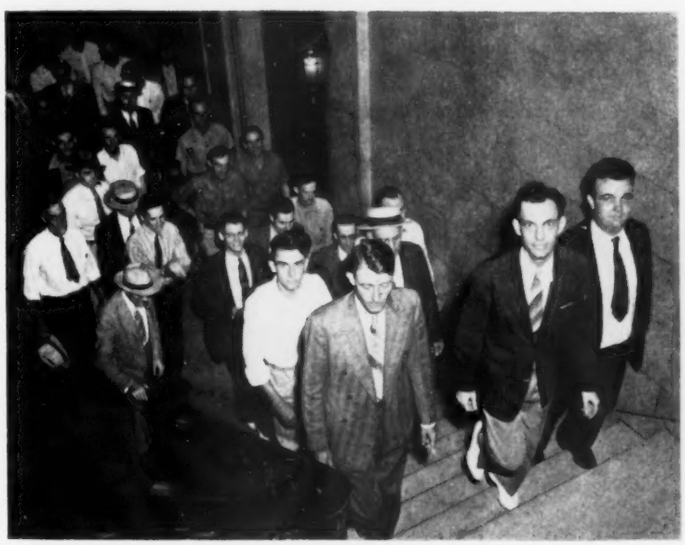
"We had promised the motorists of the state that the emergency gasoline tax was to be only a temporary measure, and I, for one, believe that promise should be kept," Mr. Dunn declared. "Too often," he added, "there is a tendency for legislatures to break faith with the people by voting temporary taxes and then perpetuating them by re-enacting them year after year as they expire, or even by making them permanent. That practice may be questioned as being incompatible with the principles of old-fashioned honesty."

Highway Users Help

L. A. Rossman, publisher of Grand Rapids (Minnesota) Herald Review, as chairman of the Minnesota Highway Users Conference, composed of 50 business and civic groups opposed the re-enactment of the tax on the grounds that special highway taxes already amounted to 38% of the state's total tax revenue. He declared that these special highway taxes required 10 days' to 2 weeks' income of Minnesota's farmers and workers.

It is estimated that the dropping of the 1c levy in Minnesota would save motorists of that state about $5,000,000 a year.

March on City Hall to Protest Tax



Vanguard of more than a hundred gasoline dealers, taxi operators, truckers and other consumers are shown here climbing steps at Charleston, W. Va., city hall to protest against proposal to levy a 1c municipal gasoline tax. City council abandoned the idea in face of gathering storm clouds of protest

City Tax Plan Arouses Storm And Is Killed

Special to N.P.N.

CHARLESTON, W. Va., Sept. 3.—A proposal to levy a municipal tax of 1c per gallon on gasoline by the Charleston city council brought more than 100 gasoline dealers, taxi operators, truckers, and other highway users to the city hall Aug. 29 to protest. The expected storm of protest, however, was stilled by action of the council which adjourned after a 3 minute meeting.

In a business meeting which broke all records for speed, the council received a budget from its finance committee which contained no gasoline tax. The "no new tax" budget, which had received the support of the local chamber of commerce, must now receive the approval of the State Tax Commissioner before final adoption by the city council is possible.

Less than a week prior to the Aug. 29 meeting, it had been reported that the council had hit upon a local gasoline tax as a solution to its deficit problems. More than 150 dealers and consumers appeared in the council chamber Aug. 26 to voice their disapproval. The council adjourned immediately after a roll call without considering its budget.

Take No Chances

While definite assurances were given following the Aug. 26 meeting that the budget would not contain a gasoline tax levy, dealers and their customers took no chances. They reappeared at the Aug. 29 session of the council prepared to place stern objections to such a tax on the record, but they were left unsaid by the brief council meeting.

"Gasoline dealers and highway users of Charleston will turn up in a body at the city hall 365 evenings a year, if such action is necessary to convince our local government that these heavily taxed groups will stand for no more tax discrimination," stated Edwin F.

Patrick, secretary of the West Virginia Petroleum Assn., commenting on the widespread opposition to the local tax.

Cites Reasons Against Tax

Pointing to the effects on all business experienced by other cities which have tried the municipal gasoline tax levy, Mr. Patrick added that if passed the proposed 1c city tax it would be (1) expensive to administer; (2) encourage evasion by raising the total tax to 7½c, 51% of present retail price; (3) drive business out of Charleston and put many gasoline dealers out of business entirely; and (4) hike the average motor vehicle taxes in Charleston to about $77 a year.

"Resentment of out-of-town visitors to municipal gasoline taxes where they are levied is well-known to service station operators, garage owners, hotel managers, tourist bureaus and tourist camps," Mr. Patrick said. "Irate visitors," he added, "provide adequate proof that municipal gasoline taxes discourage out-of-town motorists from stopping over in communities that levy such taxes."

New York 'Gas' Tax Receipts Show Record June Demand

N. P. N. News Bureau

ALBANY, N. Y., Aug. 29.—A substantial increase in highway travel this season was indicated by a record consumption of motor fuel in June, according to New York State Tax Commissioner Mark Graves, when 180,242,355 gallons were sold to motorists in New York State, an increase of 15,058,842 gallons over taxable sales of June last year.

At the close of first six months of this year, taxable motor fuel sales totaled 839,210,300 gallons, a gain of 33,259,574 gallons over the aggregated taxable sales for first six months of 1939, according to Mr. Graves. Total consumption, including non-taxable sales, was reported as 902,770,502 gallons in the first half of 1940 against 870,860,827 in first half of last year.

Rules on Shrinkage Allowance Under Georgia Tax Law

N. P. N. News Bureau

CLEVELAND — Georgia's attorney general has ruled that where a bonded distributor disposes of his motor fuel at retail through several small corporations owned by it, such transactions are "sales" within the purview of the Motor Fuel Tax Act, according to word received here.

Consequently, losses sustained by these small corporations from shrinkage and evaporations cannot be deducted by the bonded distributor in its report of gross purchases of motor fuel.

Crude Runs Rise 90,000 Bbls. 'Gas' Stocks Drop 377,000 Bbls.

N. P. N. News Bureau

NEW YORK, Sept. 4.—Inventory of finished and unfinished motor fuel in the U. S. dropped 377,000 bbls. during the week ended Aug. 31, while refining operations were up sharply, resulting in an increase of 90,000 bbls. daily in crude throughput, according to the report of U. S. refining operations published today by the American Petroleum Institute.

A sharp jump of 403,000 bbls. in inventory of gasoline on the East Coast, featured the action of the supply market the past week. Stocks in the Indiana-Illinois-Kentucky district also rose, with 147,000 bbls. added to storage. All other changes in motor fuel inventory position reported for districts of the country were on the down side, according to the Institute's report.

A drop of 291,000 bbls. in gasoline stocks at the Texas Gulf led all districts, with Oklahoma-Kansas-Missouri stocks cut 236,000 bbls. Inventory on the west coast was off 192,000 bbls., while reductions of 65,000, 52,000, and 18,000 bbls. were recorded in Appalachian, Louisiana Gulf, and North Louisiana-Arkansas districts, respectively.

While crude runs for the country as a whole were up 90,000 bbls. on daily average last week, according to the Institute report, a jump of 39,000 bbls. daily on the west coast resulted in total throughput east of the Rocky Mountains rising a total of 51,000 bbls.

The increase in runs at plants east of the Rockies was spread out among the various districts, with Texas Gulf plants leading with an increase of 19,000 bbls. daily average. Louisiana Gulf plants increased crude runs 12,000, with Oklahoma-Kansas-Missouri refineries up 11,000 bbls. daily. East Coast and Indiana-Illinois-Kentucky districts refineries both increased refining operations 9000 bbls. daily.

Total stocks of gas oil, distillate and heavy fuel oil jumped 1,588,000 bbls. for the country as a whole, the Institute's report shows.

The inventory increase of gas oil and distillate, at both refineries, terminals and in transit totaled 835,000 bbls. An increase of 503,000 bbls. of gas oil and distillate at terminals and in transit on the eastern seaboard indicates that marketers of light fuel oils on the east coast are filling storage at a heavy rate.

Increase in heavy fuel stocks for the country as a whole totalled 753,000 bbls.

Production of gasoline increased 17,000 bbls. on daily average during the week ended Aug. 31.

Detailed report found on page 11.

New York City Will Appeal Decision on Price-Posting

By Teletype
N. P. N. News Bureau

NEW YORK, Sept. 3.—Reversal of the decision invalidating New York City's price-posting law, handed down Aug. 10 by the Appellate Court of Special Sessions, will be sought by city officials as result of the gasoline price war now raging in metropolitan New York and Westchester County, according to Sol A. Herzog, counsel for the Garage and Gasoline Station Operators council. Application for appeal will be filed by Stanley Buxbaum, representing the city Corporation Counsel, Mr. Herzog said.

Meanwhile, the price war which has resulted so far in the summoning of 100 dealers to answer charges of displaying misleading price signs, showed no sign of let-up.

"Regular-grade" gasoline was being offered at 7 gals. for 98c and third grade at 8 gals. for $1. Over the holiday weekend, some stations were giving away 2 gals. of gasoline with every 8 gal. purchase, according to reports here. This was described as a "holiday special" by one informant, and "not to be regarded as generally established policy."

Reports that the price war was spreading up-state and into New England were heard.

Cause of the present price war was laid by Alex Pisciotta, director of the Bureau of Weights and Measures, on the doorstep of the court for invalidating the price-posting law. Much of the trouble was "directly due" to the court's action, he said.

Coastwise Rate Studied For Liquefied Gas

DALLAS, Sept. 3. — Texas-Louisiana Freight Bureau is considering proposal by shippers for an export-coastwise rate of 13c a hundredweight on liquefied petroleum gas shipped in carload lots from Tate Cove, La., and intermediate Texas origin points to Houston and Texas City.

It was explained that proposed rate is same as now in effect on natural gasoline and that L.P.G. would be used in manufacture of aviation fuel, which ultimately would be sold to the U. S. government.

Proposal states that product shipped from March to October, inclusive, would have minimum Reid vapor pressure of 40 lbs. per sq. in., with 45 lbs. minimum the remainder of the year. Weight of the L.P.G. would be figured on basis of 6.6 lbs. per gal., same as natural and refined gasolines.

ICC Bureau Report On Sizes, Weights Is 660 Pages Long

WASHINGTON, Sept. 3.—After nearly three years of investigation, Interstate Commerce Commission's motor carrier bureau has submitted a preliminary report on its investigation of the "need" for federal regulation of sizes and weights of motor vehicles. Report covers some 660 mimeographed pages but states no specific conclusions or recommendations.

Study was undertaken by safety division of the Bureau of Motor Carriers under ICC order dated Nov. 8, 1937. Federal size and weight regulations have been sought by some highway interests as a means of obtaining uniformity in such regulation, as distinguished from widely-varying laws of the states at present.

The report to the ICC is divided into three parts, as follows:

Report No. 1: State limitations of sizes and weights of motor vehicles; an analysis of the statutes of every state together with administrative rulings and interpretations. This also gives a brief resume of the historical development of state, municipal and other local governmental limitations.

Report No. 2: Road facilities and vehicles used in highway transport; shows the extent of road systems, their improvement, surfacing, types and range of use. This also presents detailed data as to vehicle characteristics drawn from statewide highway planning surveys.

Report No. 3: Sizes and weights of motor vehicles in relation to highway safety.

WITH THE ASSOCIATIONS

Dealers Score Margin 'Fixing'

MILWAUKEE, Aug. 30.—Resolutions adopted at the Eighth Annual meeting of the National Assn. of Petroleum Retailers in Chicago last week, and released yesterday, oppose attempts to fix dealers margins; hit co-ops and suggest their regulation; seek representation on the defense commission; and that further expansion of gasoline retailing be confined to new areas.

"It has become ever more apparent that certain sources of the petroleum retailers' supply have sought by indirection to control and fix the margin of gross profit to be realized by the petroleum retailer," states the resolution on margins.

Stating that the association is opposed to any attempt, by direct or indirect means, to fix the dealers' margin of profit, the resolution adds that the NAPR "shall take such steps as may be necessary to prevent to dictation of such margins by petroleum suppliers."

On defense, the NAPR resolution discloses that on July 5, 1940 an outline of dealers participation in national defense was presented to the War Department and asks "recognition by and representation upon the Advisory Commission to the Council of National Defense for and on behalf of the petroleum retailers of the U.S."

In its resolution hitting at co-ops, the retailers association states that "it is apparent that adequate supervisory and regulatory legislation for the establishment, management, operation and control of co-operative associations engaged in sales at retail, is lacking" in the great majority of the states. It is resolved that the NAPR "shall seek to obtain legislation throughout the states of the U. S. consistent with similar statutes for the regulation of individuals and private corporations."

Asks Limit on Stations

Pointing out that the number of service stations has more than doubled in the last 20 years, an association resolution states that the total number now exceeds 228,000 and "this tremendous increase . . . . has resulted in harmful duplication to the detriment of the industry as well as to the individual retail dealer." The group suggests that further expansion be confined to new subdivisions and new or re-routed highways in or on which no stations now exist . . . "it being recognized that refined petroleum product outlets are over-built, expansion shall be confined to modernization of existing outlets only."

Another resolution approved in principle the provisions of the Commissary Act of Wisconsin which prohibits the sale of products to consumers at wholesale prices, and recommended to all affiliate organizations and individual members, the adoption of similar legislation in other states.

Another resolution "deplores and opposes any further unwarranted and discriminatory interference with any lawful organization and the activities of petroleum retailers associations throughout the U.S."

Price Data Studied For Virginia Probe

By Telegraph
Special to N.P.N.

RICHMOND, Va., Sept. 3.—Attorney General A. P. Staples said today that he is studying replies received from major oil companies in response to his request for price data, made in connection with the Virginia oil price investigation ordered last winter by the state legislature.

Date of completion of the study and what action if any is to be taken under the Virginia anti-trust laws will depend upon developments, Mr. Staples stated, adding that most of the 11 major oil companies queried have filed replies.

The investigation, sought by Virginia jobbers, was to go into matter of discounts to commercial consumers as well as charges that prices were higher in one section of the state than in another.

N.G.A.A. Sets Date

TULSA, Sept. 3. — Natural Gasoline Ass'n. of America's 1941 convention will be held in Dallas, Tex. May 23, 24 and 25, according to Wm. F. Lowe, association secretary.

Michigan Marketers Plan Meeting at Traverse City

Special to N.P.N.

DETROIT, Aug. 30.—The fall convention of the Michigan Petroleum Assn. will be held at the Park Place Hotel, Traverse City, Mich., on Sept. 17 and 18, J. F. Wilson, Port Huron, of Star Oil Co., association president, has announced.

Following luncheon and committee reports Sept. 17, Michigan marketers will hear A. C. Renner, State Fire Marshal, and Chief of the Fire Marshal Division of the Michigan State Police talk on "Fire Hazards Pertaining to the Petroleum Industry."

J. D. Hadley, executive secretary, will review the association's activities and outline policies to be followed in the future at the Sept. 17 session. "The Michigan Petroleum Industry, as Viewed by the Secretary of State", is the subject of a talk by Michigan's Secretary of State, Harry F. Kelly.

Talks on Selling and Servicing

Principal speaker at the Sept. 18 session will be L. C. Allman, Detroit, vice-president of Fruehauf Trailer Co. who will have as his topic, "Selling and Servicing".

Address of welcome to Michigan marketers will be given Sept. 18 by Traverse City's Mayor A. L. LaFranier, who is also associated with the Rennie Oil Co. of that city, and is a director of the Michigan group. Response will be made by Al Dubuisson, South Haven, of Wolverine Service Stations.

Michigan marketers will go in for sports in a large way at the 1940 convention, with the program including bowling, fishing, shuffleboard contests, and a golf tournament.

Plans Program

J. F. Wilson

I.P.A.A. Appoints 29 To Make Oil Study

N. P. N. News Bureau

TULSA, Sept. 3.—Personnel of the "Committee of 29," named by Independent Petroleum Assn. of America, to study problems currently effecting oil producers, has been announced by the I.P.A.A. Every principal oil-producing area in the U. S. is represented on the committee.

A report, which will contain the facts gathered by the committee, will be presented to the I.P.A.A. membership at the annual meeting, in Dallas, Oct. 16, 17 and 18. The work of the committee is to come under three general headings, with a sub-committee doing the fact-finding work in each division. The three topics are: (1) Imports; (2) Interstate Oil Compact and Conservation Practices of the States; (3) Temporary National Economic Committee Hearings. The last named assignment calls for a study of the evidence on petroleum presented to the TNEC in Washington some months ago.

Committee of 29 Listed

The Committee of Twenty-Nine, of which W. A. Moncrief, Fort Worth, is chairman, is as follows:

L. L. Aubert, general manager, Bankline Oil Co., Los Angeles; T. F. Birmingham, president, Margay Oil Corp., Tulsa; H. C. Bretschneider, Denver; J. S. Bridwell, Bridwell Oil Co., Wichita Falls, Tex.; Wirt Franklin, Franklin Petroleum Corp., Ardmore, Okla.; Jake Hamon, Dallas; Winston P. Henry, president, Putnam Oil Co., Houston; Dana Hogan, president, Hogan Petroleum Co., Los Angeles; C. A. Johnson, president, Holly Oil Co., Los Angeles; D. R. Lauck, Lauck & Moncrief, Wichita, Kans.; C. A. Lester, presi-

dent, Lester & Duffield, Inc., Dallas; John M. Lovejoy, president, Seaboard Oil Co. of Del., New York; C. H. Lyons, Shreveport, La.; J. K. Mahony, Mahony & Yokum, El Dorado, Ark.; E. H. Moore, E. H. Moore, Inc., Tulsa; E. C. Moriarty, McPherson Drilling Co., Wichita, Kans.; Ralph Pryor, president, Pryor & Lockhart, Inc., Wichita, Kans.; Chas. F. Roeser, president, Roeser & Pendleton, Inc., Fort Worth; Leon F. Russ, Southwood Oil Co., Inc., Dallas; Carl H. Schwyn, president, Security Oil Co., Cygnet, Ohio; C. A. Smith, Jr., Smith Petroleum Corp., Grand Rapids, Mich.; H. M. Stalcup, vice president, Skelly Oil Co., Tulsa; Leigh Taliaferro, San Antonio, Texas; A. R. Thompson, vice president, Independent Oil Producers Association of Illinois, Mattoon, Ill.; Roy J. Turner, Harper & Turner Oil Co., Oklahoma City; Earl D. Wallace, The Wiser Oil Co., Lexington, Ky.; Van S. Welch, Flynn, Welch & Yates, Inc., Artesia, New Mex.; and Ralph T. Zook, president, The Sloan & Zook Company, Bradford, Pa.

Standards Released For Liquefied Gas

N. P. N. News Bureau

TULSA, Aug. 26.—Adoption of "tentative standards" for liquefied petroleum gases, effective Sept. 1, 1940, is announced by the Natural Gasoline Assn. of America. Revised and modified standards are the result of research studies made by the N.G.A.A.'s Technical Committee after wider usage of liquefied petroleum gas necessitated changes in specifications set up in 1931.

The principal modifications of the original specifications for commercial propane and commercial butane are: first, the addition of a specification for butane-propane mixtures; second, the addition of a barometric correction in the determination of 95% boiling point for butane which is also included in this determination for butane-propane mixtures, third, a revision in specified sulfur content to account for total sulfur, and fourth, inclusion of a method of test for total sulfur which is a modification of the A.S.T.M. tentative lamp method (D 90—34 T). Provision is made also in all three classes of liquefied gases for adding "an odorizing agent of such character as to positively indicate the presence of gas down to concentrations in air of not over 1/5 the lower limit of flammability. . . ."

The preamble to the 1931 standards stated that while the committee had considered only the products of natural gasoline, "owing to the similarity of products it has been concluded that refinery fractions may be safely included in this classification in so far as major specifications are concerned." In the preamble to the modified standards it is included that "the experience of recent years has proved this conclusion to be correct."

Union to Widen Its Drive Among Commission Agents

N. P. N. News Bureau

CHICAGO, Sept. 3.—Strike of commission agents of Indiana Standard's Milwaukee division is an entering wedge for more extensive unionizing activities, according to Earl H. Munson, business agent of the Cartage and Commission Employes Union, an A. F. of L. affiliate, which has been on strike since Aug. 7.

"We are making progress in organizing the employes of all major companies throughout Wisconsin," declared Mr. Munson, adding that two organizers are now in the field. They are not attempting to induce employes falling within jurisdiction of other A. F. of L. unions to join the Cartage and Commission Employes Union, he said.

Last week an Indiana Standard official said "more than 100 of the 126 commission agents in the Milwaukee division are now at work," adding that "the strike seems to be flattening out."

Mr. Munson said Standard's estimate of men working in the Milwaukee division "is just about fifty per cent correct."

Strike was called Aug. 7 as result of demands by commission agents for an over-all 10% increase in income and a new system of paying on a uniform basis. Disagreements between the company and the union go back to Feb. 3, 1939, when the demands were first made by the union, and the situation was brought to a head by cuts in agent's commissions during May, 1940, estimated at from 10% by the company to 25% by the union.

Limit Sour Gas in Panhandle

AUSTIN, Sept. 3.—Texas Railroad Commission has ordered production of sour gas in the West Panhandle field of Texas limited to 700,000,000 cu. ft. daily beginning Sept. 1 and extending through October.

New Jersey Golf Outing To Be Held Sept. 26

NEW YORK, Sept. 3.—Annual fall golf outing and dinner of the New Jersey Oil Trade Assn. will be held Sept. 26 at the Suburban Golf Club, in Union, New Jersey, outside of Elizabeth, according to Joseph H. Gunn, association secretary.

SAE Fuels, Lube Meet at Tulsa, Nov. 7-8

TULSA, Sept. 3. — National Fuels and Lubricants meeting of the Society of Automotive Engineers is scheduled for Tulsa, Nov. 7 and 8, according to B. E. Sibley of Ponca City, S.A.E. vice president and general chairman of the meeting.

Committee in charge of local arrangements consists of W. F. Lowe of Tulsa, Natural Gasoline Ass'n of America; John C. Day of Tulsa, Western Petroleum Refiners Ass'n; A. A. Hansen of Bartlesville, Phillips Pet. Co.; G. C. Richardson of Bartlesville, Indian Territory Illuminating Oil Co.; and Carl Tangner of Oklahoma City, Diesel Power and Machinery Co.

DEATHS

W. L. Knight

W. L. Knight of Breckenridge, Tex., whose developments made possible the drilling of deeper oil wells via the cable tool method, died at a Ft. Worth hospital Sept. 1.

Born at Oxford, West Va., 58 years ago, Mr. Knight followed the oil producing game from his home state to the Mid-Continent, and Central West Texas, where he discovered the Curry pool and pioneered along with others oil production in Shackleford County, Tex.

Mr. Knight and his partner developed a swivel that made possible use of wire cables in well drilling. This in turn enabled the drilling of deeper wells. But it took the combined efforts of Mr. Knight and his partner to demonstrate the advantages of wire cable and to overcome reluctance of old time driller to switch from rope to wire cables.

* * *

Adrian C. Doherty

Adrian C. Doherty, 45, for the past 15 years with Tide Water Oil Co., died suddenly at his home in Tulsa Aug. 28. He leaves a widow, Dorothy Williamson Doherty; a brother, W. R. Doherty, Jr., of Jackson Heights, N. Y., and a sister, Miss Annette Doherty of Brooklyn, N. Y.

Tanker Rates Are Unchanged

N. P. N. News Bureau

NEW YORK, Sept. 3.—Domestic charter rates on tankers between the Gulf and the eastern seaboard generally remained unchanged over the past week, according to reports in the boat market today.

Rates for "clean" and "dirty" bottoms ranged between 18 and 20c per bbl., with fixtures of gasoline, kerosine and No. 2 fuel reported to have been closed between these ranges.

Two "clean" boats were reported to have been chartered to lift cargoes in the Gulf in early September. One vessel of 75,000 bbls. is to lift No. 2 fuel, for movement from the Gulf to North Hatteras, with price paid reported at 20c per bbl. The other "clean" fixture was an 80,000 bbl. boat to load kerosine for Gulf to Boston movement at a reported price of 19c per bbl.

Another report in the New York boat market is that a "dirty" boat has been chartered for two consecutive voyages from the Gulf to the eastern seaboard. Ship is of 50,000 bbls. capacity, and is to lift mixed cargoes of 30 gravity or lighter and 10-19.9 gravity crude and fuel, the former at 18c, the latter at 20c per bbl.

Reports in New York also were that fixtures of "dirty" bottoms flying foreign flags could be made from Covenas to Lisbon and the Gulf of Mexico to Lisbon at between $25 and $27 a ton. However, no actual charters have been reported.

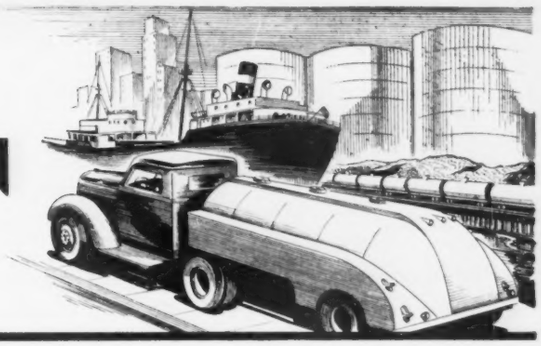
Nebraska Producers May Get New Outlet

TULSA, Sept. 3. — Nebraska producers have in Standard Oil Co. of Indiana another potential purchaser of their newly-discovered crude. Indiana Standard is reported considering a plan to take Nebraska oil into Stanolind Pipe Line Co.'s main east-west artery.

Under the plan now being considered, oil would be trucked from the Falls City area to the Elmont station on the Stanolind line, there to be piped eastward to such refining centers as Sugar Creek, Wood River and Whiting.

No definite commitments for purchase of the oil have been made, it was said.

OIL TRANSPORTATION



Trainload Rate Plan Shelved As Railroad Blames Refiners

(*Continued from page* 13)

question and the real and only question is, will the railroads haul any of this traffic that actually moves from the Mid-Continent field."

* * *

Text of MacKenzie Letter

Text of Mr. MacKenzie's letter to the rail-shipping refiners and P.R.S.A. officials, dated Aug. 30, follows:

Gentlemen:

Referring to the above joint proposal covering reduced rates on refined petroleum oils from Southwestern territory to pipe line and water terminals designated therein in WTL territory.

In the conferences I had with you gentlemen as representatives of the refining interests in the Southwest favoring the proposal I was assured that dependable information would be furnished to me covering the amount of the tonnage moving from pipe and barge terminals and the destinations and also oil traded and oil purchased from refineries in WTL territory which would move direct from the Mid-Continent Field in the event the proposed basis of rates were established. This information was to be in such shape that we could determine therefrom the amount of additional revenue that would accrue to the rail lines. While certain of the shipping interests referred to have furnished me for their individual account with the data required, the needed information is far from complete, there having been only five refining interests submitting their data. It seems apparent at this late date that we can have no assurance that the information will be furnished and as you have been advised unless the information could be had I would not attempt to further progress the subject.

Regret very much that under the circumstances I am reluctantly compelled to advise you the decision has been reached that the Rock Island will discontinue its consideration and efforts on these proposals, until the promised information is furnished.

I am sending copies of this letter to those indicated below, our understanding being they are members of the group for whom you gentlemen were speaking in our conferences. Will you not please notify any additional parties for whom you were speaking as we do not readily locate the list?

Yours truly,
(Signed) A. Mackenzie

Rail Shippers Look to ICC For Freight Rate 'Equality'

N. P. N. News Bureau

TULSA, Sept. 3.—Squelched in their efforts to speed up actual publication of rail-initiated trainload rates on petroleum products shipped from southwestern refining centers to midwestern and northern marine and pipeline terminals, Mid-Continent refiners now look to the Interstate Commerce Commission for any relief that may come from transportation "inequalities" they say threaten their petroleum markets.

A decision in the Petroleum Rail Assn. case (ICC 28106) complaining against "discriminatory" transportation charges appears to be the only bright spot in the rail shippers' fight for equal transportation charges to all, they say.

This spring when rails revived the trainload rate idea on petroleum and played their proposal against a less drastic one proposed by an ICC examiner, rail shippers were hopeful that at least a portion of their spring and summer gasoline movements would be in trainload lots at rates more nearly approximating pipeline cost of transportation, their toughest competition. This proposal would have set trainload rates 1c a gal. on gasoline below present single carlot rates. But the rail-initiated proposal, since that time, has been kicked about from one rail rate group to another, seeking managerial approval. As the trainload proposal progressed from one bureau to the other, pressure increased and at last it was shelved for lack of approval and support. From there, Rock Island took up the trainload rate proposal and announced it would publish the rates along its own line, irrespective of what other rails did. But now Rock Island has "backed down," they say.

Re-opening of ICC hearings at Oklahoma City Oct. 9 on trainload rates proposed by ICC Examiner Stiles is hailed by rail shippers as a desire on part of the commission to grant them relief from "discriminatory" transportation charges in the form of reduced petroleum rail rates. A decision in this case is hoped for by rail shippers before the end of the year.

Wisconsin Rail Rates Under Consideration

ST. LOUIS, Aug. 27.—Commodity rates on petroleum products shipped from the new refining point of Sheboygan, Wis., to destinations in Wisconsin and the upper Peninsula of Michigan are under consideration by Western Trunk Line Committee.

The new plant at Sheboygan is expected to start operating about Oct. 1 and proposal states it is necessary to establish commodity rates comparable with rates in effect from other shipping or producing points.

Shipments of light refined products, under proposal W.T.L. C. X-D-37-479, from Sheboygan to Superior and Menomonie, Mich., would take a 1.848c a gal. rate; to Madison, and Fond Du Lac, Wis., 1.155c and 0.792c, respectively.

Shipping California 'Gas' to Midwest Considered Possible by Large Co-op

N. P. N. News Bureau

CHICAGO, Sept. 3.—Gasoline can be transported by an all-water route from California to Minneapolis for 31c per hundredweight (2.046c per gal.), according to Joseph Prince, traffic manager of Midland Co-operative Wholesale, who said it might be necessary for him to bring California gasoline around to the middle west, if trainload rail rates are not put into effect soon. He said that he would be "glad to prove" to anyone interested that he can bring California gasoline to Twin Cities for 31c per hundredweight.

Certain refinery interests in California, Mr. Prince said, are interested in developing a Mid-Western market and consider it "entirely practical under present conditions."

He said that the 31c per cwt. transportation rate from California to Minneapolis was based on "a firm quotation for immediate acceptance" of 4c per hundredweight (0.264c per gal. or slightly over 11c per bbl.) for the movement from California to New Orleans; 26c per hundredweight (1.716c per gal. or about 72c per bbl.) from New Orleans to Minneapolis; and 1c per hundredweight (0.066c per gal. or 2.772c per bbl.) throughout, for a total of 31c per hundredweight (2.046c per gal or 85.932c per bbl.) from California to Minneapolis.

Mr. Prince said that while river transportation north of St. Louis during the winter would be impossible, that the proposed rail reduction in carload rates in central freight territory. While more expensive than water transportation would still make the total rate per hundredweight to Minneapolis considerably less than the 46c rate from the group, he said.

ICC Calendar On Oil Trucking

Rogers Cartage Co., Chicago, (MC 64932 Sub No. 1), has applied for permit as contract carrier of petroleum and petroleum products in bulk, in the states of Illinois, Indiana, Iowa and Missouri, from Blue Island and Hartford, Ill., to points in Indiana, Iowa and Missouri over irregular routes. Hearing is scheduled for September 17, 1940, at Chicago.

California September Quota Down 16,000 Barrels Daily

N. P. N. News Bureau

LOS ANGELES, Aug. 24.—Anticipating a decline in demand during September, conservation committee of California oil producers set September's voluntary crude production quota at 571,000 bbls., a reduction of 16,000 bbls. daily from August quota.

The committee's decision was influenced by uncertainty as to the volume of exports that could be expected next month and by the comparatively small withdrawals that were made from storage during the first 7 months of the year.

California conservation organizations in the past have consistently adopted a policy of maintaining nearly constant allowables throughout the year, with the expectation that considerable quantities of oil would be withdrawn from storage during the summer months to compensate for additions during winter months. That equalizing movement, however, did not occur this year and stocks of principal petroleum products were reported to have been reduced by less than 2,000,000 bbls. since Jan. 1, 1940.

Crude Stocks Increase

In the opinion of the committee, a still more unfavorable feature of the stock situation was the net addition of 972,000 bbls. to refinable crude stocks and an addition of 216,000 bbls. to gas oil and diesel oil totals. The net withdrawal from storage has been due to drafts of 2,541,000 bbls. from residual fuel stocks since the first of the year.

The committee pointed out that demand for residual fuel oil may be considered a possible complicating factor for the future, because to fill these needs, supplies of lighter oils are increased. Possibility was seen that California might be facing a condition that has caused concern in other sections of the country where the demand for burner and furnace oils is said to have resulted in the production of excess supplies of gasoline.

A decline of about 200,000 bbls. in the domestic demand for gasoline during the second quarter of this year, as compared with the same period last year, was expected to be followed by corresponding or even more serious declines after the close of the tourist season.

Top well allotments were reduced by the committee 7 bbls., bringing the maximum output of individual wells to 156 bbls. per well per day. By reduction in the power factor, output of intermediate wells was also cut down. A new subcommittee, consisting of C. G. Williams, R. R. Body, W. C. Whaley, R. L. Keyes and L. R. Rodgers, was appointed to survey development operations in the state and to make an estimate of the number of wells likely to be completed during the remainder of the current year and in 1941.

Pipelines Show Increases In Movement and Revenues

N. P. N. News Bureau

WASHINGTON, Sept. 3.—Increase of 5.3% in the revenue of large oil pipeline companies during 1940 as compared with 1939 is shown in the second quarterly report (April, May and June) of the Interstate Commerce Commission which covers 45 companies with annual operating revenues in excess of $500,000.

Revenue for the 1940 period totaled $53,668,517 as against $51,008,307 for the same three months last year. Amount of oil, originated on lines and received from connections, reached 337,543,625 bbls. this year as compared with 286,190,269 bbls. for 1939.

Of 45 companies, 24 showed revenue increase and 21 decreases. Latter included Great Lakes Pipe Line Co. transporting refined products, which sustained a 19.4% decrease in revenue. Great Lakes' quarterly revenue for 1940 was $2,398,752 in contrast to $2,974,788 in 1939, with a corresponding drop in tonnage from 4,896,622 to 3,708,712 bbls.

Percentage increases of lines showing largest gains over 1939 were: Buckeye Pipe Line Co., 77.6%; Continental Pipe Line Co., 66.8%; Illinois Pipe Line Co., 34.7%; National Transit Co., 33.1%; Rocky Mountain Pipe Line Co., 22%; South West Pennsylvania Pipe Lines, 32.3%; Texas Pipe Line Co., 28.3%; and Texas Pipe Line Co. of Oklahoma, 33.3%.

Louisiana Standard Sets Up New Producing Unit

N. P. N. News Bureau

NEW YORK, Aug. 30.—Standard Oil Co. of Louisiana, subsidiary of the Standard Oil Co. of New Jersey, today announced the formation of a new unit to manage all the company's crude oil producing properties. The newly-organized subsidiary, to be known as the Louark Producing Co., will handle expanded activities of the Louisiana company in exploring and developing Arkansas and Louisiana oil properties.

Headquarters will be the Standard Oil Building, Shreveport, La. J. R. McWilliams will be president; Cecil Morgan, vice-president and secretary, and V. C. Megarity, treasurer.

Oil Defense Study Of Texas Industry To Be Ended Soon

AUSTIN, Sept. 3.—The Texas Railroad Commission's survey of oil production, refining and transportation of petroleum products in the state to be used for national defense purposes is expected to be completed later this month.

The inventory of the petroleum assets of Texas—war's essential requirement—will be charted on maps and graphs, accompanied by detailed descriptive material, it was said.

Maps will include location spottings of the state's 93,000-odd oil and gas wells and the transportation outlets from the state's fields.

The Texas commission and the federal government will be able to tell at a glance where certain types and grades of Texas crude are available and in what potential quantities, it is said.

The preparedness survey was suggested by Texas Railroad Commissioner E. O. Thompson and is being carried out by the commission's oil and gas division.

'Roads for Defense' Features Asphalt Conference

N. P. N. News Bureau

NEW YORK, Sept. 3.—Surfacing highways and airports as an aid to national defense will highlight the 13th National Asphalt Conference at Dallas, Tex., during the week of Dec. 9th.

The Asphalt Institute has announced that the U. S. Public Roads Administration, the State Highway Dept. of Texas, the Highway Research Board of the National Research Council and the Association of Asphalt Paving Technologists will co-operate in the conference.

Indictment Names 3 In Louisiana Case

NEW ORLEANS, La., Sept. 3.—An Orleans Parish grand jury last week indicted Former Governor Richard W. Leche, Seymour Weiss of New Orleans and F. W. Burford, Dallas oil man, for alleged bribery in connection with movement of crude from the Louisiana side of the Rodessa oil field, according to District Attorney J. B. Cocke.

Counts named in the indictment follow very closely those cited in a bill of information filed several weeks ago in state court, which in turn were based on an indictment returned by a federal grand jury about a year ago, it was said. Leche and Weiss were charged with accepting bribes from Mr. Burford and a Shreveport oil man, for "exercising influence" over the Louisiana Conservation Commission for the purpose of running "hot" oil from the Rodessa field, the district attorney said.

Last week's indictment by the county grand jury did not list A. C. Glassell as defendant, according to District Attorney Cocke.

The indictment was necessary, the district attorney said, before extradition proceedings against Mr. Burford could be instituted.

The federal case was never tried because court refused to extradite Mr. Burford to Louisiana for trial. The district attorney, however, expressed confidence all named in the county indictment would be tried.

Louisiana to Meet Sept. 18 on Demand

NEW ORLEANS, La., Sept. 3.—Louisiana Department of Conservation will meet here Sept. 18 to take evidence from producers and purchasers on market demand for oil and gas for the 60-day period beginning Oct. 1, according to Commissioner B. A. Hardey.

Testimony will be used in figuring the state's allowable production of oil and gas for October and November.

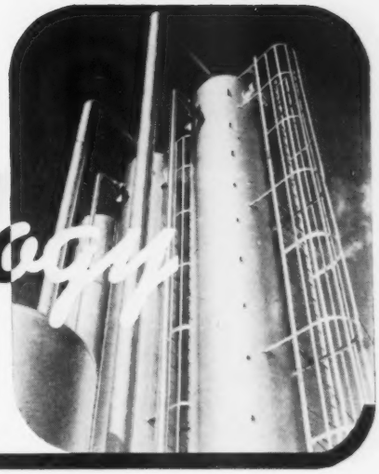
45th Birthday of Texas Oil To Be Celebrated

FT. WORTH, Tex., Sept. 3.—Oil's 45th birthday in Texas will be celebrated by the Texas Mid-Continent Oil & Gas Ass'n at its annual convention here beginning Oct. 31, according to E. L. Smith, association president.

Special recognition will be given Texas' oil pioneers, including those who helped in the discovery or development of Texas' first commercial oil field at Corsicana in October, 1895.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY



CATALYTIC CRACKING AS EARLY AS 1905 Commercial application of catalysis to petroleum refining is new. But few are aware of the fact that an American manufacturer of kerosine lamps, as early as 1905, had taken out a patent on a catalyst which was built into a lamp in such a way that the gaseous mixture passing to the burner was said to be "chemically modified by the catalytic agent, the unburned hydrocarbons being partially split up into simpler and more volatile bodies or oxidized derivatives of the methane series."

Catalytic methods of utilization of petroleum products thus appear to have been attempted long before such methods were applied to the manufacture of petroleum products. In the years since this first patent was issued, this and other catalysts (platinized tripoli, thorium and uranium oxides, zirconium oxide, and lanthanum) have been applied to an industrial furnace, to spark plugs to prevent carbon formation, to motor cars to burn the carbon monoxide out of the exhaust and even to enable the burning of No. 3 fuel oil in a gasoline engine, and now to cook stoves so that this No. 3 fuel can be burned more efficiently than kerosine or kerosine burned with less tendency to leave soot.

While the problems confronted in designing catalytic refining processes are far different from those encountered in equipment designed for utilizing petroleum products, the 35-year record of these applications of catalysts to improving the reactions of hydrocarbons during combustion indicates that some of our fellow-Americans have long been familiar with the usefulness of catalysis when applied to reactions of the hydrocarbons.

One of the objects of the catalysts used in all of these devices is the prevention of carbon formation, which they were said to do very well. The elimination of carbon formation in catalytic cracking would make a revolutionary change in the process. Research never stands still. It is a possibility to look forward to.

An interesting story of these applications of catalysts to stoves and motor cars can be told by Alice M. Fairchild, now with the Technical Laboratories of Sears, Roebuck and Co. She became interested in catalysts research as a chemist in the laboratories of the Mantle Lamp Co. of America where she was associated with C. K. Harding, to whom the early catalyst patents were issued. Since 1931 five patents on catalysts or apparatus employing catalysts to improve combustion of hydrocarbon fuels have been granted to her. In her present connection she has developed a new catalyst and burner designed to improve combustion of range oil or heavier oils in cook stoves. She is also interested in a catalytic carburetor which, on her own Model A Ford car, makes possible the burning of No. 3 fuel oil. She admits obtaining at times more than 40 miles to the gallon on this fuel.

OPENS SEASON OF TECHNICAL MEETINGS Appropriately enough the American Chemical Society's Petroleum Division, now over 600 strong, takes the opportunity of a society meeting in the automobile center of the United States next week to recount the accomplishments of the petroleum chemists which have benefited the automotive industry. Reduction of knocking tendencies in motor fuels and gains in load carrying capacity and heat resistance of motor fuels immediately come to mind as developments of petroleum chemists during the past decade which have had important effects upon engine design to the ultimate benefit of motorists who buy the motor cars.

In addition to these indispensables, motor fuel and lubricants, asphalt has also affected the design of motor cars. Development in asphalt road construction and lowered costs of building roads has bettered riding comfort and lowered costs of car operation.

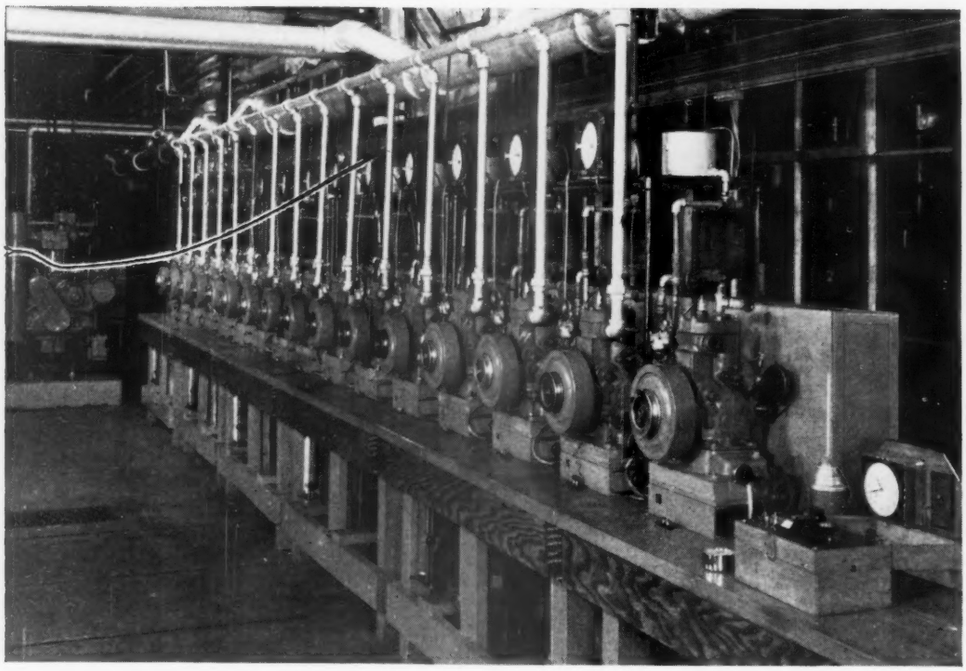
What a contrast such a meeting is, with its opportunity to gain new ideas upon which to build for new improvements in products, to meetings of some of the trade and labor unions whose principal concern is less work and more pay, with no thought of improving production methods which would make this possible.

* * *

ENGINE DEPOSITS Varnish formation in engine cylinders still holds the spotlight of attention in the field of lubricating oil research. It is an engine ailment in which the lubricant engineer has always had an interest, but like certain physical ailments—grippe, laringitis, the common cold, influenza, or "strep throat"—it goes by different names or belongs to a family of troubles that appear in different form with changes in engine conditions or differences in motor oil composition.

Whether it is varnish, lacquer, ring sticking, gum formation, or sludge, all are believed to be results of motor oil oxidation. Automotive engineers reported last winter that the lacquer problem was no longer serious. The subject is still alive however since improvement of lubricating oils in film strength, load carrying ability, oiliness, pour point, or other qualities must be accomplished without compromising with oxidation resistance. To make the problem more interesting, older methods of determining oxidation characteristics of lubricating oils have failed when the oils are doped with additives to improve these qualities.

One method of determining an oil's resistance to oxidation, described on the following pages, is just short of actual service in telling what an oil will do when used by John Public in his family car or by a contractor in his diesel-powered shovel. The substitution of small single-cylinder engine tests for the various laboratory oxidation tests has solved the problem of correlating actual engine performance of motor oils with laboratory evaluation until a simpler procedure is discovered and proved.—M. G. V.



Starting with 4 single-cylinder test engines the oxidation and corrosion test program for lubricating oils has grown in 3 years until it requires 18 engines, 16 of which are shown here

Show Motor Oil Varnish Tendencies With Single-Cylinder Test Engines

ABSTRACT

Predicting the oxidation, sludging, varnish, and corrosion characteristics of motor oils since the introduction of additives in lubricating oils, has become so uncertain that many technologists find full-scale engine tests or actual field service the only satisfactory proof of the quality of an oil in these particulars. Since time, space, and cost limit the extent to which lubricating oil refiners can conduct such tests, extensive experimentation has been made with small single-cylinder engines in order to fix engine operating conditions which will produce as nearly similar results for any given oil as in full-scale engines.

The test program and methods described here are a development of 3 years, during which constant check has shown that full-scale engine performance can be predicted closely from the results of test runs in 2½-horsepower single-cylinder engines when kept under closely controlled conditions. During this period four original engines have been increased to 18 engines and the methods have proved so successful in this and other laboratories that the method has aroused universal interest.

ROARING in unison 24 hours a day, 7 days per week, eighteen 2½-hp. single-cylinder engines, occupying a bench space only 35 feet long, supply essential information on detericration of motor oils that no other laboratory test with test tubes and reagents or any other test machine except full-scale engine has been able to do satisfactorily. Call it an engine test if you like, or simply a laboratory oxidation test, it is all the same to A. O. Willey, Associate Professor of Mechanical Engineering, Case School of Applied Science, who, as consultant for The Lubri-Zol Co., supervises the test work in the Case mechanical engineering laboratory.

Economy in time for completing tests, enabling a more extensive program and the testing of more lubricating oils, and economy of space for conducting the tests, account for the use of the small single-cylinder engines instead of full-scale engines. Tests that would have required 10 men 17 years to complete on one full-scale engine, 8 men do on these engines in 6 weeks, it has been estimated. Economy of cost of running the tests is also of considerable importance in the use of the small-scale engines.

So carefully have the operating conditions of these 18 engines been adjusted and frequently checked with full-scale engine operation, that they can be operated with confidence that the resulting corrosion and oxidation, including ring sticking and varnish formation, will agree closely with conditions found in average service operation in full-scale engines. Constant check is also maintained to see that the single-cylinder engines agree among themselves in rating a given motor oil.

The continuous checking of oil performance as found

in actual service operations is one of the most important factors in judging the validity of the laboratory methods used. In more than 800 laboratory tests involving check runs on more than one engine, a remarkable degree of consistency of results has been obtained, according to Prof. Willey. Having once established this correlation it is only necessary to make periodic check runs on reference oils to insure the dependability of the small engines.

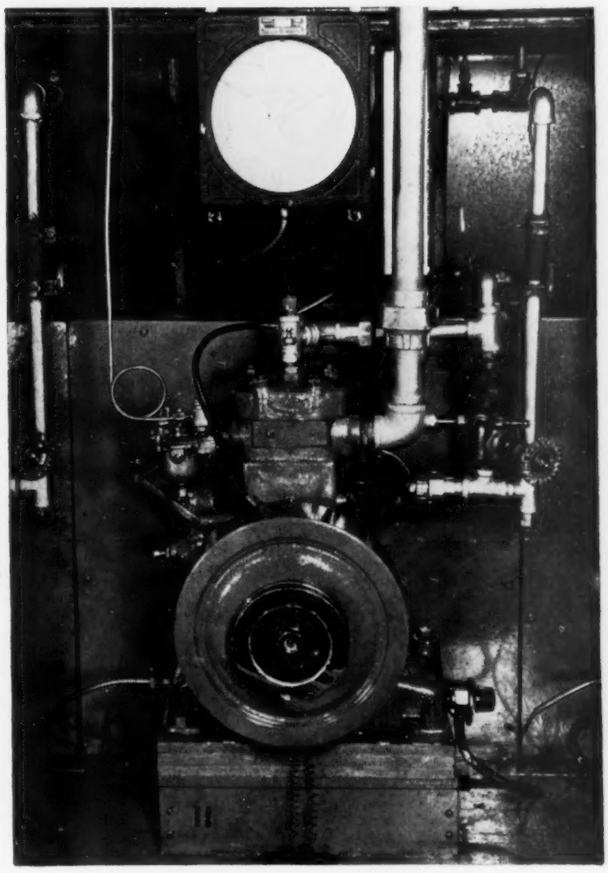
A large part of the service properties of a motor oil are determined by test runs in the small engines. All are related to oxidation and corrosion. One is the formation of sludge, a second is varnish or lacquer formation, third ring sticking, and the fourth is detergency, which might be defined as the ability of the oil to loosen or prevent varnish and gums from adhering to the walls of the cylinder and piston and from sticking the rings. Corrosion is studied by observing loss of weight and surface conditions on copper-lead bearing inserts in the connecting-rod bearing. While copper-lead bearings are not the most susceptible to corrosion of the bearing materials that have been used, they are a type that are in common use in connecting-rod bearings and are the most susceptible of the bearing alloys in general use. Oil consumption is also recorded in these tests.

Test runs range all the way to 120 hours or more depending upon the performance of the oil as observed at the 25 to 30-hour intervals between inspections. Contrasting with the extreme care with which the engine operating conditions are controlled, the extreme latitude practiced in interpretation of results appears careless. Yet nothing is farther from the truth. The reason that no attempt is made to interpret the results within close limits is because significant differences have to be noted to be considered indicative of superiority or inferiority in comparison with standards which have been set up. For example, in recording the hours of a run where 30-hour intervals of inspection are scheduled, a 70-hour run is classed as 60 hours or 108 hours as 120 hours.

Deposits on pistons are graded by matching with 5 reference pistons on which there are varying degrees of varnish formation or other deposits. Similar observations for corrosion are made on the bearing inserts when they are removed from the engines. Loss in weight, however, is the most important observation. Pistons, rings, and bearing inserts are never used but once. When the test is completed the parts are carefully labeled and stored away for possible future reference. During the 3 years of operation of the small engines, the laboratory has accumulated 1600 cylinders and bearing inserts which have been stored away for future reference. This number would have been considerably greater had all 18 engines been in operation for the 3 years. The program started on a small scale however, and grew, a few engines at a time, to the present scale of operation.

An idea of the saving in cost which is made possible by the use of the small engines may be had by the estimate of an initial cost of $125 for parts for one engine setup, including the temperature recorder, with an average of $9 for parts and labor of replacements for each test. In one of the full-scale diesel engines in this laboratory the cost of the replacements for one test is close to $175.

A number of factors have made it necessary to employ



This head-on view of one of the single-cylinder test engines shows the recording thermometer for oil sump temperatures and arrangement of cooling system piping. The fan used for loading the engine is behind the back-wall

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REFINING TECHNOLOGY

September 4 ,1940

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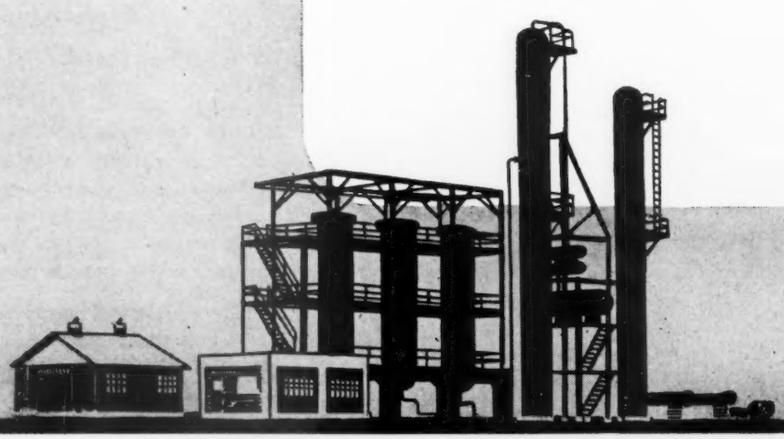

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A. O. Willey, associate professor of mechanical engineering, Case School of Applied Science, and consultant for The Lubri-Zol Corp., developed the single-cylinder engine test program described here. Prof. Willey is a native of Maine and graduate of Maine University in 1924. He received his Master's degree there in 1929 and has been at Case since that year

new tests for motor oils, chief among which is the increasing severity of service which is demanded of motor oils, resulting in the use of additives whose effects are unpredictable by the ordinary tests. A few years ago the standard laboratory tests were sufficient in most instances for determining specifications of the oils. With increasingly severe service demands and, particularly, higher temperatures of engine operation, these tests fell short of indicating the performance to be expected under actual service conditions in full-scale engines.

The idea of utilizing small, single-cylinder engines for testing rather than full-scale engines is not a new one. Various laboratories of engine and lubricant manufacturers have experimented in this field with varying degrees of success. The small engine test procedure appears to have more attractions for the lubricant manufacturer than to the engine manufacturer. However, they have played a prominent part in the selection of oils recommended for use in the Caterpillar diesel engines during a period when motor oils of sufficiently heat resistant quality were not universally available.

The Lubri-Zol single-cylinder engine program was initiated by Prof. Willey about 3 years ago as a means of providing facilities for a more intensive test program. The program has long since reached the stage where an established routine may be confidently expected to produce dependable results giving satisfactory evidence of correlation with actual service performance in motor cars, diesel powered trucks, busses, and power machinery. The success of this extensive program has aroused considerable interest and similar programs are being installed or studied in other oil company laboratories.

Selection of Test Engine and Method

Several single-cylinder commercial engines were available for setting up the test program. Such engines are used for various purposes, for example, charging batteries for farm lighting and power systems. Four different engines of a size suitable for conducting the tests were tried out before deciding on the present engine. The deciding factors for the selected engine were that it was approximately the size desired, it had a full-flow cooling pump and jacket arrangement, an oil system such as to give close control and duplicable results, adaptable carburetion, and a simplicity of design which facilitated the frequent tearing down and reassembly required in the test work.

Accompanying photographs show the bank of 18 single-cylinder engines as set up in the laboratory when all are operating and a head-on view of one of the engines. This particular engine has a 2⅝-inch bore and 2½-inch stroke and is rated at 2½ hp. at 1800 rpm. Uniformity of metallurgical conditions was insured by employing cylinder blocks obtained from the same foundry heat. Careful control of all other replacement parts is also maintained. Vapor cooling was tried out on these engines but it was decided to retain the full coolant flow system using undiluted diethylene glycol as a cooling medium. Experiments are now in progress to improve the temperature control of the cooling system by altering the arrangement of the system.

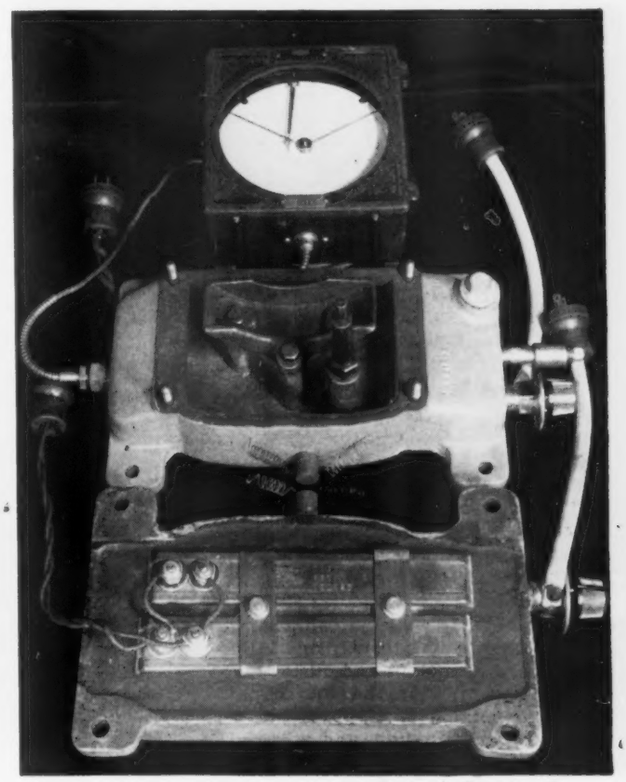
Each engine is a complete unit to itself in every respect, except that the exhausts pass through a common exhaust gas system. Separate cooling systems, magneto ignitions, fuel tanks, and loads are provided. Each engine is provided with its own separate temperature recorder, shown above each engine, for use in maintaining a constant oil-sump temperature.

One of the accompanying illustrations shows the temperature control equipment for the oil sump. Two base castings are shown, one right side up and the other bottom side up to show the heating elements provided to maintain the sump oil at the desired temperature. Thermometer bulbs of the Vapor-pressure type are attached on the side of the base casting.

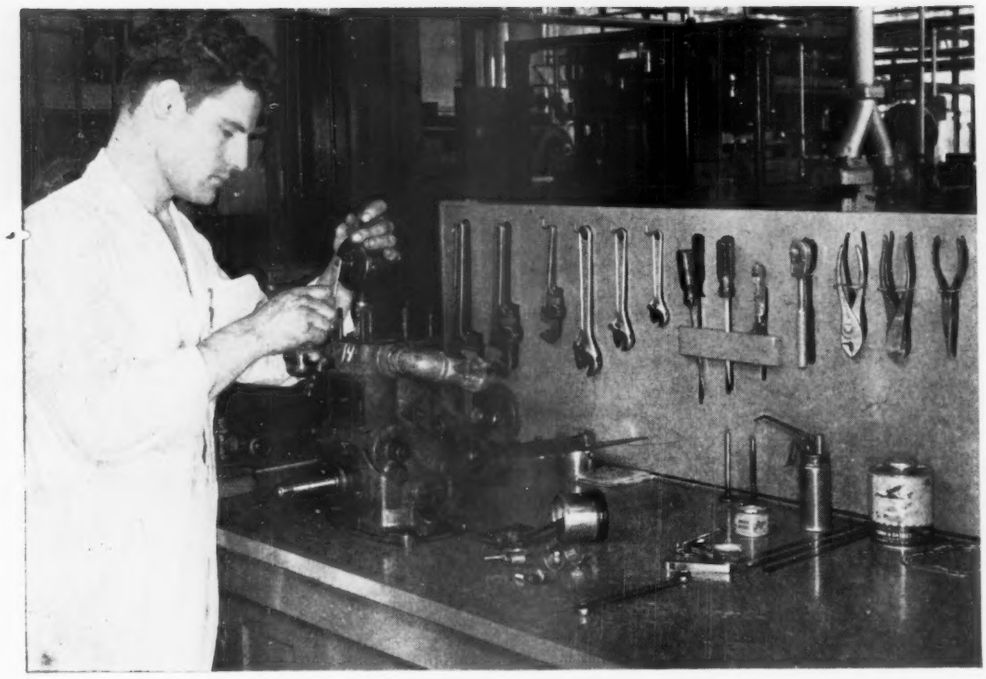
The coolant temperature is controlled by using a by-pass system permitting the coolant to recirculate from the head of the cylinder through the by-pass to the pump and then into the lower portion of the cylinder block. The pump shown on the right side of the block is operated in the normal manner. The second branch of the system, shown at the upper right of the photograph, carries a portion of the coolant through a small radiator. The radiator is the core of an automobile heater adapted to this purpose.

Coolant Temperatures Manually Controlled

The radiator is placed in the path of the air flow from a fan whose principal purpose is to provide load for the engine. The fan is a simple double-paddle, balanced on the crank shaft. Operation at any selected temperature can be effected by adjustment of two needle valves in the coolant lines which control the volume of flow through the radiator and by-pass. This system is capable of control to limits of 2° F., well within the range of all phases of interpretation applied to the results of tests. A thermocouple shown in the outlet from the engine head is used as an indicator of coolant temperature. A second thermocouple is used to measure the jacket temperature. A single potentiometer setup is used to check these two temperatures on all 18 engines. A row of double-throw telephone switch-



Temperature control equipment for regulating oil sump temperatures. Two base castings are shown, one bottom-side up to show the electric heating elements



Grinding a valve at the reconditioning bench opposite the bank of test engines. Replacement piston and valve inserts are ready for installation

board switches simplifies recording the temperatures at one-hour intervals.

The type of test procedure used on these engines depends upon the service characteristics of the oil to be investigated. If a lubricant is being studied for high piston temperature types of operation, such as might be expected in aircraft, diesel engine, or heavy duty gasoline engine service, the operating conditions are made relatively severe. The recent interest in varnish or lacquer deposits required temperatures not quite so high. The following table shows the engine operating conditions for each type of test.

	High Temperature Operation	Varnish Testing
Engine output	¾ full load	
Speed	1600 rpm.	
Air fuel ratio	12.7 to 1	
Coolant temperature	350° F.	170° F.
Oil sump temperature	225° F.	280° F.
Inspection interval	30 hours	25 hours

Engine speeds are checked by tachometer. Air fuel ratio is determined by a conventional type of exhaust gas analyzer. This is done also at one-hour intervals.

Preparation for each test involves completely disassembling and thoroughly cleaning an engine. The cylinder bore is checked for wear and a new piston and ring assembly is installed. The type of piston and rings, and the allowable tolerances have been carefully standardized and are rigidly maintained. A new set of alloy type bearings is installed on the connecting rod and the engine is built up with new gaskets throughout.

Exactly two pounds of the oil to be tested is put in the crankcase and its identification given to the operators by code number only. Readings of all control items are taken at one-hour intervals and adjustments for speed, air-fuel ratio, and coolant and oil temperatures are made whenever necessary. At the inspection interval of 25 or 30 hours the engine is stopped, the piston and bearings removed for examination, and a record made of observations. Three record forms are provided: one for taking hourly records of speed, load, air fuel ratio, temperatures of the room, coolant, exhaust, and oil, and the oil additions. The second form is filled out during inspection of piston and rings at 25 or 30 hour intervals.

This form is devised to show the condition of the piston and rings at the end of each running period. Deposits are described in terms of soft, medium, and hard; light, medium, and heavy; and are rated A to E by comparison with the reference pistons previously mentioned. Wear is rated in the general terms; smooth, fine scratches, light score, and deep score. Ring sticking is given in per cent stuck for each of the three rings.

The report form covers the piston and rings thoroughly. It includes type and amount of deposit on cylinder head and piston head, ratings for the piston, top ring, second, third land and inside discoloration of the piston; type of deposit in top, second, and third grooves; surface condition of the piston skirt and cylinder liner, extent of sticking of each piston ring, and visual condition of the oil.

Both of the first two forms are made out by the operators performing the test work. By use of this simplified method of evaluating engine conditions it is not necessary to employ highly trained observers to make certain that consistent ratings of motor oil performance are obtained. The third form summarizes the 25-30 hour inspections for the completed test of the oil sample. Piston condition, ring sticking, oil ring filling and loss in bearing weight are recorded for each period inspection up to a total of 8, dependent on results obtained. Such items when properly correlated with field service can be used to predict detergency, oxidation and ring sticking tendencies, and bearing corrosion. The loss in weight of these bearings will run as high as 900 to 1100 milligrams during 90 hours with a corrosive lubricant, while as low as 40 to 50 milligrams loss is common for the non-corrosive materials. The test program provides for two men on duty at all times. Eight men make up the staff on a 42-hour week basis.

Average oil consumption during these tests levels off to about 2/3 pound per 30 hours run after 120 hours of operation. During the first 30 hours however, the average oil consumption is more than double this amount. This drops to about 0.8 pound during the second 30 hours. It is quite obvious from this data that the high temperature tests are quite severe as far as oil consumption is concerned. Unusually close limits for oil consumption are obtained by careful attention to the mechanical reconditioning and fitting of new parts.

Many oils which undergo the small-engine tests are eliminated by the first test if they show bad in the first

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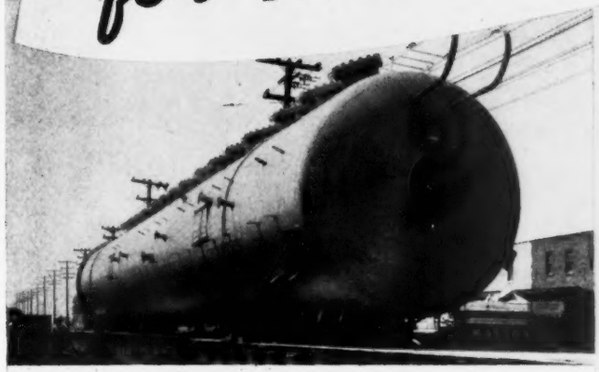
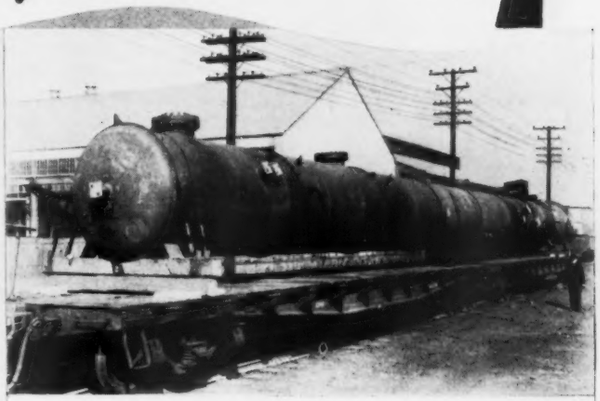
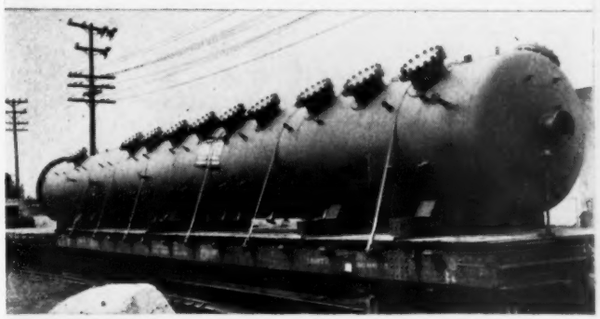


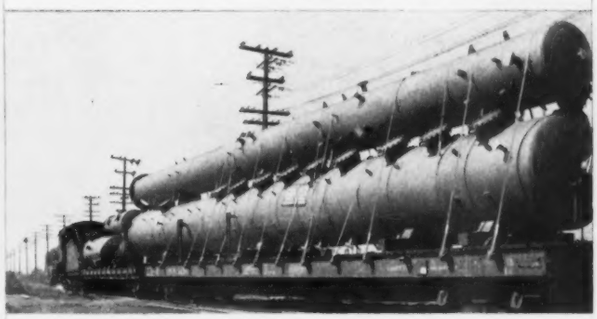
ALL-WELDED ATMOSPHERIC BUBBLE TOWER — Diameter 9 ft., Height 93 ft. 6 in. Built for one of the major oil companies.



ALL-WELDED TREATING TOWER Diameter 5 ft. 6 in., Height 84 ft. Built for a large construction firm.



ALL-WELDED FLASH TOWER Diameter 6 ft., Height 71 ft. Built for one of the major oil companies.



ALL-WELDED TOWERS—Lower Tower—Dia. 6 ft., Height 71 ft.—Upper Tower—Dia. 4 ft., Height 72 ft. 8 in. Built for a major oil company.

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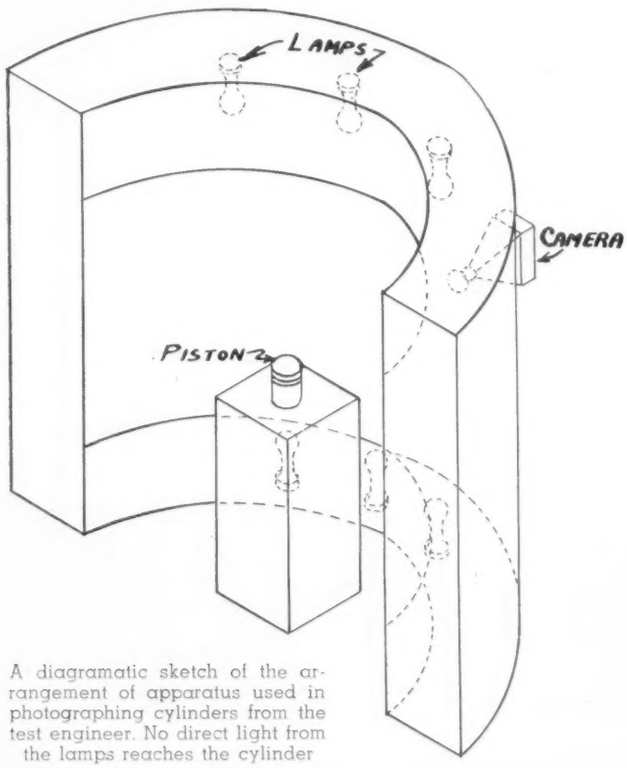
30 hours. An oil which runs, 90 hours shows promise and in some instances as many as 20 to 25 tests are run for oils which show promise on the first run. These tests will run on different engines and as a final test different gasolines are employed to make sure no adverse effects result from change in the type of gasoline. All 18 engines are usually not operating at the same time since it requires from 2 to 3 hours to clean out an engine, hone the cylinders, check tolerances and fits, and install new parts ready for a new test.

No Tests Omitted

From this account of the single cylinder engine test equipment it should not be inferred that the laboratory is lacking in equipment for the other standard tests. The equipment includes that for making all the various types of oxidation tests and corrosion tests. Practically all known types of film strength machines are employed. Provision is made for determining all of the service properties of motor oils, including oxidation, corrosion, film strength, wear rate, oiliness, demulsibility, detergency, ring sticking, and varnish formation, as well as the other properties such as flash and fire points, gravity, carbon residue, viscosity and viscosity index, pour point, acidity and color. Full-scale automotive gasoline and diesel engines are available for checking results on the small engines.

One of the features of the small engine test work is the technique employed in photographing the pistons after test for record purposes. Since color of deposits is of importance in rating the formations, photographs are made both in color and black-and-white. The construction of the background and lighting arrangement is shown in the accompanying drawing.

The lighting is so arranged that the subject gets no direct light from the lamps. Indirect light is reflected from the white walls of the setting. The laboratory is equipped with two of these settings. One is small and constructed with semi-circular quarter-inch ply-wood on a wood frame to which is tacked white bristol board. The smaller setting is about 20 inches in height and has a 30-inch diameter. The larger setting, 4 feet in height and with 5-foot diameter, is of stronger construction and made in two sections, which are bolted together. Sheet aluminum, etched on the inside, is used for light reflection. The piston to be photographed is mounted near the center as shown and the camera is aimed through an opening in the reflecting wall of the setting.



A diagramatic sketch of the arrangement of apparatus used in photographing cylinders from the test engineer. No direct light from the lamps reaches the cylinder

New Test for Aromatics in Air

A new method of detecting aromatics in air is reported by G. R. Gilbert and R. E. Tannich, Humble Oil & Refining Co. Many methods have been developed before, it is pointed out, but have been unsatisfactory. A method is required because of the potential hazard to the health of workers exposed to atmospheres containing as little as 100 parts per million of aromatics. The new method is said to give an accuracy within 15 parts per million for critical concentrations of 100 parts per million.

The analytical method devised consists of cooling blends of air samples with the vapor of a known volume (0.5 cc.) of methyl alcohol. One or more of the air samples suspected of being toxic are tested along with others containing known concentrations of aromatic distillates. The gaseous mixtures, contained in 5-liter flasks, are cooled to —70° F. and the refractive indices of the condensates are determined. These are plotted against known volumes of contaminant in the blends to produce a curve from which volume of liquid contained in the unknown air sample may be determined. The final figure is obtained by application of mathematical formulas involving aromatic content of the liquid sample, density of the liquid sample before and after extraction with 99.5% sulfuric acid, and density of the aromatics. Details of the method are described in Ind. Eng. Chem., Anal. Ed., July 15, 1940, page 433.

Compute Gas Mixture Explosibility

The explosibility of many complex gaseous combustible atmospheres may be calculated without performing tedious time-consuming laboratory experiments using a procedure developed by the Bureau of Mines and recently published. The method was developed in conjunction with studies of the explosive properties of cyclopropane and of non-inflammable mixtures adapted to use as anesthesia.

Tables and graphs are presented in Report of Investigations R. I. 3511 from which the limits of inflammability of complex mixtures containing cyclopropane and combustible and inert gases may be calculated. Data are presented that show the oxygen values below which flames of cyclopropane and various other combustible gases and vapors are extinguished when nitrogen or carbon dioxide is added to the combustible mixtures.

The report recommends for anesthetic use that cyclopropane be mixed with helium and oxygen. Such mixtures may contain 15-30% cyclopropane, 20-30% oxygen, and 65-40% helium.

New Asphalt Specifications

"Revised Specifications for Slow-Curing Liquid Asphaltic Road Materials" have been adopted by The Asphalt Institute and are available upon request to the institute, 801 Second Av., New York. In these specifications the same system of viscosity limits has been incorporated as developed recently for the medium curing and rapid curing products.

* * *

Change Asphalt Specifications

New tentative specifications for cut-back asphalts, which cover six grades of rapid curing and six grades of medium grade curing material, were to be submitted by Committee D-4 of the American Society for Testing Materials to Committee E on Standards at its August meeting. "Based on intensive work during the year there are nearing completion proposed methods of test for modified miscibility and for dehydration of emulsified asphalts, and for portland cement mixing of emulsified asphalts. Also nearing completion are proposed specifications for slow setting emulsified asphalt for fine aggregate mixes."

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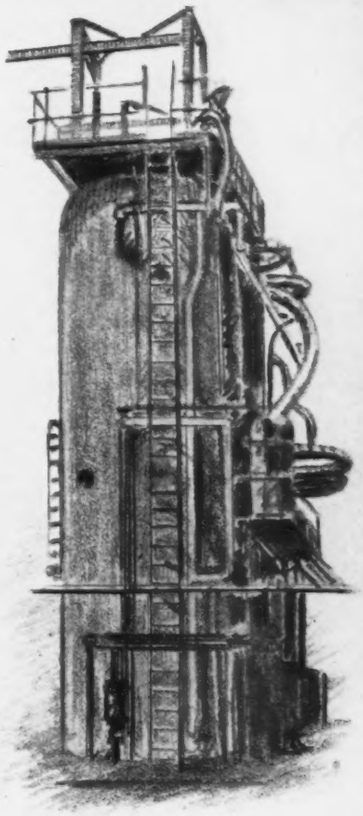


OVER 7 MILLION BARRELS

In 1926 a certain refiner installed a small Gray Clay Treating Unit. To date this unit has produced 7,655,000 barrels of low gum content gasoline.

GRAY CLAY TREATING

Synthesize Octanes For Anti-Knock Tests

Dr. C. E. Boord, well-known for work on synthesis of hydrocarbons, supervises the A.P.I. project at Ohio State University

Dr. Albert L. Henne has charge of the A.P.I. project for preparing pure hydrocarbons in the gasoline range

TWELVE additional new hydrocarbons in the gasoline range have been synthesized by the American Petroleum Institute's Hydrocarbon Research Project at Ohio State University, doubling the number reported at the last November meeting of the institute in Chicago by Dr. D. P. Barnard, Standard Oil Co. (Ind.), chairman of the Committee on Hydrocarbon Research.

Up to the present all of the 18 octanes that can be synthesized (omitting one or two for which no method of synthesis has been devised) and some other hydrocarbons closely related to the octanes have been produced. Among the synthesized products is triptane which has been given wide newspaper publicity as a result of its exceptionally high anti-knock value and, incidentally, a value which is highly sensitive and variable with changes in engine conditions.

The project is assuming new importance and significance with this country's military preparedness program under way, particularly with relation to the possibilities it may open up in the production of aviation fuels. While the project is not concerned with the possibilities of isolating or producing commercial quantities of desired hydrocarbons from petroleum, the data obtained may indicate which hydrocarbons are worth while going after.

Further discussion of the work done on the project and methods used are to be presented in a paper by Dr. C. E. Boord, supervisor of the project, and Dr. A. L. Henne, who is in direct charge of the synthesis program, to the Petroleum Division of the American Chemical Society for presentation at its September meeting in Detroit.

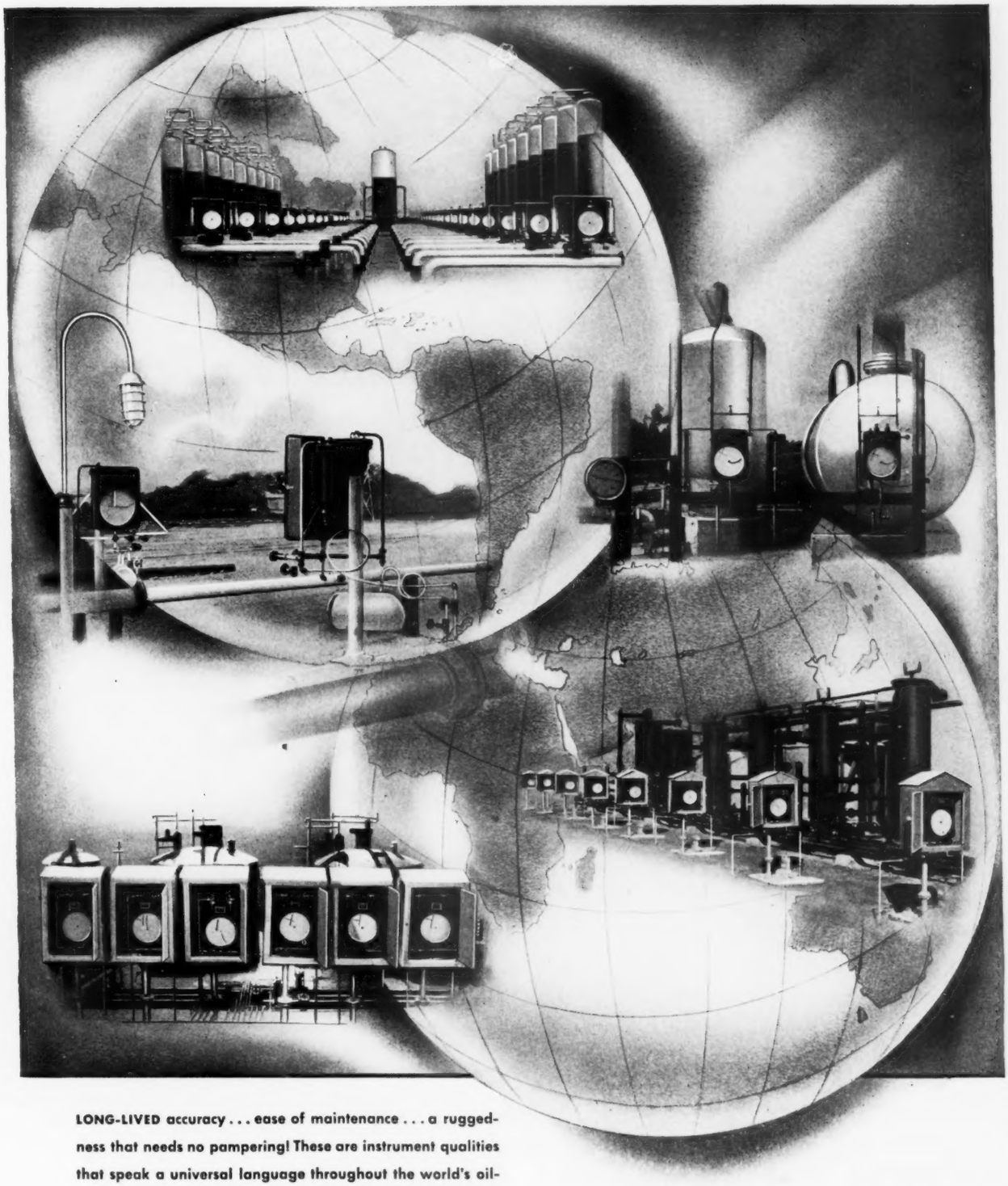
The A.P.I. Hydrocarbon Research Project was undertaken two years ago as the result of a rapidly increasing need for basic data on the combustion characteristics of hydrocarbon components of volatile fuels, particularly knock characteristics, since these cannot be determined satisfactorily from studies of the complex mixtures typical of commercial gasolines.

Since separation of pure hydrocarbons from finished gasoline is ordinarily too slow, uncertain, or impractical, the procedure at O. S. U. is to produce the desired product by synthesis. The raw materials are commercial ketones and organic chlorides which usually react to form crude liquid olefins. These olefines are subjected to catalytic hydrogenation to produce crude paraffins. Control of product formation is effected by variation of temperature, pressure, and the nature and quantity of the catalyst in the reactions. The crude paraffins are then fractionated at 2° F. rough cuts in small packed columns. A somewhat larger laboratory column produces a 0.1° F. cut of which about 2 gallons is required. There are now 10 of these columns in use.

Ten additional columns are being installed which will be used to produce cuts to 0.01° F. Products obtained from the latter columns will be used for determination of physical and chemical properties. The 0.1° F. cut is supplied to General Motors laboratory for engine tests. Of the total quantity of finished product about 1½ gallons goes to the engine laboratory while the remaining half-gallon is reserved for chemical laboratory tests.

THE work at O. S. U. is being supervised by Dr. C. E. Boord, professor of organic chemistry, well known for his extensive work on the synthesis of hydrocarbons. He is among the contributors to the recently published encyclopedic work "The Science of Petroleum" on "The Physical Constants and Molecular Structure of the Non-cyclic Hydrocarbons." His earlier interest in molecular structure brought him into prominence as the co-inventor of molecular models, now widely used in studying molecular structure. Dr. Boord's achievements in chemistry during the past 30 years of his attachment to the Ohio State faculty give him a place in "Who's Who in America" and "American Men of Science." He is a member of Sigma Xi and Phi Beta Kappa. He has held his present position since 1924.

Dr. Henne received his Ph. D. at the University of Brussels in 1925 and was a Post-Graduate Fellow at Massachusetts Institute of Technology the following year. He was a special lecturer at O. S. U. from 1929 to 1938 during which period he was a consultant for Ethyl Gasoline Corp. He became associate professor of chemistry in 1938 on taking over the A. P. I. Project work. His contributions to the Journal of the American Chemical Society, like Prof. Boord's, have been extensive. He became a naturalized American citizen in 1933.



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Institution of Ark.-La. Assn.

LEON C. GROSJEAN

Secretary of the Arkansas-Louisiana-Texas division of the Western Petroleum Refiners Association has arranged semi-monthly meetings among plant operators with only two "misses" in ten years

TEN years ago the Arkansas-Louisiana Refiners Assn. decided that the organization's effectiveness could be expanded by an educational program for employes of its member refining companies. A series of technical meetings was selected as the most logical step, the idea being to get the plant operators together once a month in an informal meeting to discuss their individual and mutual plant problems and to hear experts discuss the current developments in the industry.

That informal social-educational program now is an institution in the North Louisiana, Arkansas and East Texas refining districts.

The activities of the Arkansas-Louisiana Refiners Assn. were consolidated with those of the Western Petroleum Refiners Assn. some four years ago but the technical meetings have gone right along without interruption under the sponsorship of the Ark.-La.-Tex. division of the W. P. R. A.

No organization in the industry probably has a better record for sustained interest in an educational program for the men employed by its member companies. Nowhere have the workmen had a better opportunity to keep abreast of the changes in the operating technique in their industry.

There have been only two "misses" since the program was started. Plant operators have journeyed to the meeting place month after month to listen, discuss and visit. Attendance has ranged from 45 to over 100. Many of the men drive well over 100 miles to attend a meeting that does not begin until 5 P. M., and then must drive back home the same night in order to be on the job the next morning.

The meetings are held on the second Friday evening of each month, either at Shreveport, El Dorado, Ark., or Kilgore, Tex. Every other meeting is held in Shreveport, due to the fact that it is almost equidistant from the Arkansas and the East Texas refining districts.

The plant men usually begin arriving at the meeting place about 5 P. M. They visit for an hour and then swing into the program. At its conclusion they all have dinner together, each man paying for his own meal, and then start home. The meetings usually are over by 8:30 P. M.

Programs are kept as diversified as possible, which accounts for the fact that despite the fact these meetings have been held each month for almost 10 years the same speaker has never appeared on the program twice. In a few instances, however, the same company has furnished more than one speaker.

Any speaker who has appeared before these plant men will testify to their intense interest. Many a speaker has talked for 30 minutes and then discussed the subject informally with the plant men for more than an hour.

Realizing that the plant operators have many individual problems, a "question box" has been established into which any operator may drop questions to which he would like an answer. Twice a year a "question and answer" meeting is held.

The questions are listed and passed among the men several days prior to the meeting with the result that when a question is read at the meeting a full discussion is given. Many a bothersome problem for some plant operator is solved because some other operator had that problem and worked out a solution and is not a bit reluctant to help his friend.

A great deal of the success of this educational program can be credited to L. C. Grosjean, who is secretary of the Ark.-La.-Tex. division of the W. P. R. A., and who has handled the details of each meeting from the very beginning.

Leon Grosjean has spent all of his adult life in the oil business. Born in Shreveport, La., he attended high school and business college. His first job was with the Gulf Refining Co. in the retail sales department. Returning from a two-year stretch in the Army during the World war, Grosjean rejoined the Gulf company in the production department. Then in 1921 he became affiliated with the Brown-Mason Oil Co. at Shreveport and remained with them for eight years.

When the Arkansas-Louisiana Refiners Assn. was organized in the spring of 1929 he was named secretary.

On July 1, 1936, the activities of that association were consolidated with those of the Western Petroleum Refiners Assn. Grosjean was named secretary of the newly formed Ark.-La.-Tex. division. The Arkansas-Louisiana Refiners Assn. was not dissolved, however, but has been dormant since the consolidation of activities.

Propose New Dropping Point Test For Grease Softening Quality

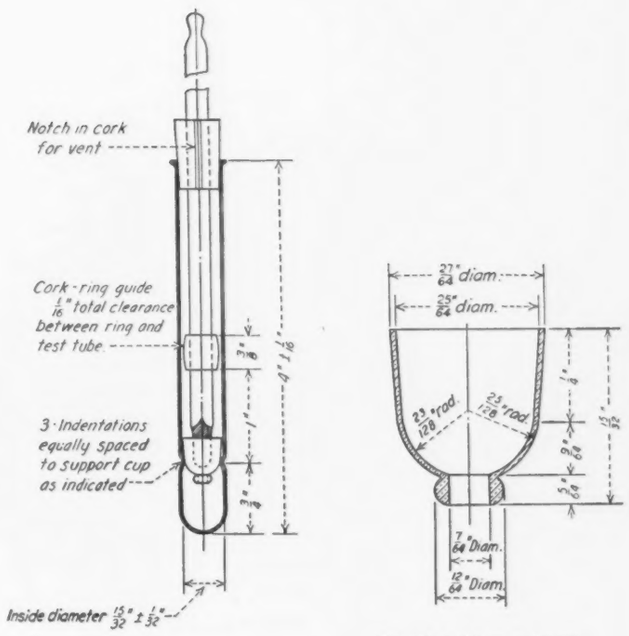
THE recent proposal of a new standard method and apparatus for determining the dropping point of lubricating greases by Subcommittee IV on Grease, of the American Society for Testing Materials Committee D-2 on Petroleum Products and Lubricants, brings to life again discussion of a test procedure first proposed by the committee in 1937. Since 1937 additional work has been done in perfecting the method and a new type of aparatus developed which is considerably simpler than that described in 1937[1].

The dropping point of a lubricating grease is so-called because a grease has no fixed melting point but is sometimes referred to as the melting point because of the similarity of its method of determination to that for melting point of petrolatum (D127—30). The dropping point is of importance in predicting performance of a grease, particularly at high temperatures and in industrial applications. Perhaps differentiating general performance from service performance or quality, it is pointed out in connection with the new test that "it should not be considered as having any bearing upon service performance." Neverthless, a knowledge of the softening characteristics of a cup grease is of value in selection of greases for particular types of service and in relation to methods of application, and is a factor in determining the rate of consumption of a grease in a given bearing. It has also been found to have a relationship to the soap content of fiber greases.

Although the effort to adopt a standard dropping point method is new, there have been many methods for determining the dropping points of greases and most manufacturers have long since adopted a method for their own products. The present proposed method is comparatively simple though not quite as simple as the petrolatum melting point test where the melted petrolatum simply drops off the bulb of the thermometer when the temperature reaches the melting point. The accompanying drawing shows the details of the apparatus which requires only one specially designed part—a chromium plated brass cup a little smaller than a thimble. The cup is supported near the bottom of a standard half-inch diameter test tube by three indentations in the glass. A thermometer supported by corks in the test tube completes the apparatus except for the heating bath. The 1937 apparatus required three intricate machined parts to hold a grease cup on the bulb of the thermometer and employed a larger test tube. The present cup has a bottom opening of new design.

The A. S. T. M. Dropping Point is defined as "the temperature at which the grease passes from a semi-solid to a liquid state under the conditions of test." Comparison of results obtained by the new method with the 1937 method by 9 laboratories shows no change in the average results for limebase cup grease, but somewhat higher average dropping temperatures for the soda-base fiber and wheel-bearing greases, as might be expected from the change in cup design. In general a little closer agreement of results was obtained with the new method.

[1] Appendix 1, A. S. T. M. Standards on Petroleum Products and Lubricants—1937.


Notch in cork for vent
Cork-ring guide 1/16" total clearance between ring and test tube
3 Indentations equally spaced to support cup as indicated
Inside diameter 15/32" ± 1/32"
27/64" diam.
25/64" diam.
23/128" rad.
25/128" rad.
7/64" Diam.
12/64" Diam.
ASSEMBLED APPARATUS
CHROMIUM PLATED BRASS DETAIL OF CUP

New dropping point test apparatus is of simple design

H. W. Gillett is credited with first suggesting the dropping point test, similar to that now standard for determining melting point for petrolatum. The method was described in the Journal of Industrial and Engineering Chemistry in 1909. Various other methods have been employed involving use of capillary tubes, flow on the side walls of test tubes, and melting of a cube of grease floating on the surface of heated mercury.

In performing the new test the grease cup contains only "a smooth film of reproducible thickness" left around its inside walls by rotating a full cup downward around a rod passing through the cup. The apparatus is then assembled as shown and immersed in an oil bath to within a quarter inch of the top rim of the test tube. The oil bath is stirred and heated at the rate of 8-12° F. per minute until the bath temperature is 30° F. below the expected dropping point. The rate of heating is then reduced quickly so that the temperature in the oil bath will be within 4° F. of that in the test tube. This condition may be maintained by heating the oil bath at the rate of 2-3° F. per minute. The temperature is noted on the two thermometers at the instant a drop of grease reaches the bottom of the test tube. Their average temperature is recorded as the dropping point of the grease. A sufficient number of determinations are made so that the average deviation from the mean is 3° F. or less.

Thinner Walls, Higher Heat Release Is Trend in Oil Still Design

The trend of suspended walls for oil stills has been to reduce refractory thickness while at the same time the trend in the still design has been to increase the heat release in the furnace proper and to increase the rate of absorption in the coil, it was pointed out by H. O. Johanson, M. H. Detrick Co., at a technical group session of the Ark.-La.-Tex. Division of the Western Petroleum Refiners Association July 12 at El Dorado, Ark.

The stills of a few years ago had an average heat release of 4000 B.t.u. per sq. ft. of furnace volume while the modern still has a release of nearly 10,000 B.t.u. per sq. ft. of furnace volume, Johanson said. This, of course, has decreased the costs of refractories, foundations, and steel structure on the still.

The first suspended walls installed on stills were of the air-cooled wall design since the insulated wall had not been developed. Describing the reasons for the development of the insulated wall, Johanson said, "a still, as a rule, had a larger wall area than the average boiler setting, and being fired at a lower furnace temperature had less heat transfer through the refractory which all made the recovery of the preheated air impractical. In many cases the air was dissipated to the atmosphere, which resulted in a small loss in efficiency, so the next step was to insulate the walls to eliminate this loss.

"The insulated wall has the same suspension principles as the air-cooled wall, but is so designed that insulation can be installed on the back of the refractory lining. A combination of refractory thickness and insulation thickness can be calculated for any given furnace temperature so as to get the economical heat loss through the entire setting. In a refinery where fuel can be had at a reasonable cost, figures prove 2 to 3 inches as the economical thickness of insulation to use behind the refractory lining.

"Some of the latest stills are designed with 7 inches of refractory on the exposed walls and with 3 to 4½ inches of refractory in the walls or arches shaded by tubes. However, some stills have been installed with 3 inches of refractory on both the shaded and exposed walls. The 3 to 4½-inch refractory walls as a rule have approximately an inch more insulation thickness than the heavier walls with about the same over-all heat loss efficiency."

Mr. Johanson said there are five reasons for failure of a refractory lined wall which suspended walls have greatly reduced and in many cases entirely eliminated. These are melting, softening, spalling, fluxing, and expansion. He said there are very few cases of failure by melting since better grades of fire brick are available and thin suspended walls permit external cooling which reduces melting failures. Softening is far more frequent and occurs near the bottom of the furnace where heat and load are greatest. Air cooling, thin walls, and suspended walls reduce this difficulty.

Spalling, caused by alternate heating and cooling, expansion and contraction, is also minimizd by reduced loading provided by suspended walls. Fluxing is generally due to the presence of ash which serves as a fluxing agent. Air cooling corrects this condition, Johanson said, because the ash must be in molten condition to cause the brick to flow or wash away. However, he added that an ash that fuses below 2100°F. will cause trouble with any refractory wall unless burned with about 40% excess air. Aircooling alone will not suffice. Expansion joints have been developed for solid walls but with indifferent success. Expansion difficulties are, of course, not experienced with suspended walls where each section is independent of all other sections.

It was also necessary to give consideration to other factors such as low cost, simplicity of erection and repair, and applicability to air cooling and insulation . The castings used in supporting the fire brick should be good for 200-300°F. more than grey iron and have non-growth properties at constant high temperatures. Certain installations require a still higher grade of casting.

Mr. Johanson concluded that "there is no engineering cure-all but that suspended wall manufacturers are experimenting on other designs and materials, and will always play a large part in the development and trend of furnace designs."

War Affects Paint Solvents

Increased demand for low-solvency petroleum diluents for use in the lacquer industry is expected to result from the growing demand for toluol in the manufacture of explosives and the likelihood that high-solvency naphthas will also find their way into this service. This demand will be met by the 200-265° F. cut.

On the other hand, it has been pointed out that the use of cellulose ester solvents in lacquer formulation is increasing. This trend leaves the petroleum industry with two alternatives. One is to tackle new fields of conversion and attempt to develop synthetic chemicals, and neglect all research and development to forward perfection and use of the paraffinic thinners now offered. The other is to confine itself to thinners now used. Most major producers are expected to follow both roads and continue to offer new products that will have a place in the solvent industry.

The lacquer industry has profited most in recent years of development of solvents, from the synthetic activities of the petroleum industry, the Canadian Chemical Association was told at a recent meeting. Products which have been made available have chemical stability, greater solvent power for nitrocellulose and resins, and have reduced costs for finished products.

Old types of V. M. & P. naphthas have been largely replaced by narrow-boiling fractions. Cuts boiling between 235° and 295° F. are believed best. The high initial boiling point induces a greater margin of safety, better flow, better brushability, and better leveling, while lower end point gives tack-free drying in much less time than old V. M. P. naphthas boiling from 180° to 375° F. Lack of material boiling between mineral spirits and V. M. P. naphthas has always been felt. One material to fit this need was recently put on the market, boiling at 280° to 345° F. This material approached the safe flash point of mineral spirits while having the fast drying time of V. M. P. naphtha. The most important development in mineral spirits is considered material of 45-48 kauri-butanol, good corrosion and good odor, and availability at a reasonable price. Its principal advantage is greater resin-cutting power.

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

August 6, 1940

Stabilized oil composition—W. H. James, assignor to Socony-Vacuum Oil Co. Filed Jan. 20, 1938. No. 2,209,976.

Lubricant and process of producing it—I. M. Colbeth, Belleville, N. J. Filed Nov. 6, 1931. No. 2,210,140.

Catalytic polymerization of olefins—Heintz Indest, Germany, assignor to William Currie, New York, N. Y. Filed Dec. 3, 1938. No. 2,210,148.

Catalytic conversion of hydrocarbons—Robert Pyzel and C. C. Gerhold, assignors to Universal Oil Products Co. Filed Aug. 12, 1939. No. 2,210,257.

Conversion of hydrocarbon oils—J. D. Seguy, assignor to Universal Oil Products Co. Filed Aug. 31, 1939. No. 2,210,265.

Solvent extraction of petroleum oils—J. W. Russ, Jr., and H. R. Fife, Pittsburgh, assignors to Carbide & Carbon Chemicals Corp. Filed Aug. 21, 1937. No. 2,210,383.

Method of treating cracking still residues—W. H. Carmody, Pittsburgh, assignor to Neville Co. Filed Oct. 12, 1937. No. 2,210,395.

Method of recovering selective solvents—Siibren Tiimstra, assignor to Shell Development Co. Filed May 7, 1935. No. 2,210,541.

Process of removing phenols from mineral oils—A. C. Byrns, assignor to Union Oil Co. (Cal.) Filed Dec. 10, 1938. No. 2,210,542.

Method of cracking oils in vapor phase—P. C. Keith, Jr., assignor to Gasoline Products Co. Filed Dec. 1, 1928. No. 2,210,549.

Manufacture of lubricating oils—F. X. Govers, assignor to Indian Refining Co. Filed Mar. 29, 1932, and Feb. 17, 1934. Nos. 2,210,866 and 2,210,867.

Bell Improves Refineries

Bell Oil & Gas Co. announces extensive additions and improvements to its refinery at Grandfield, Okla., and also to the Ben Franklin refinery at Ardmore, Okla. At the Grandfield plant the straight-run distillation equipment has been revamped and the No. 1 pipe still increased in capacity to 4000 barrels per day. A centrifugal hot oil pump has been installed to increase cracking capacity.

A complete new treating system has been installed at the Ben Franklin plant which improves the quality of the gasoline and has reduced the quantity of chemical required in the treating process.

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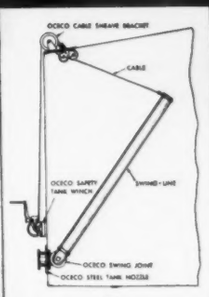

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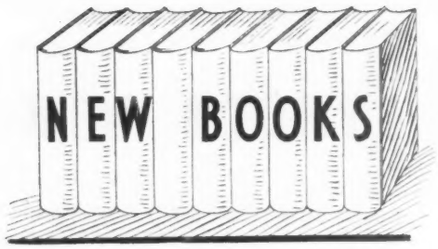


Petroleum Development and Technology

The fifteenth of the Petroleum Development and Technology series of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers has just been published by the institute. The volume contains papers presented before three meetings during last Fall and Winter: at Galveston Oct. 5-7, 1939, at Los Angeles Oct. 19-20, 1939, and at New York Feb. 12-15, 1940.

The volume, like last year's "Transactions", is more than half made up of reports of 1939 production by states and 15 foreign countries. Both the arrangement and extent of material in the book follow closely the 1939 volume. It is divided into five chapters as before, of which Production, referred to above, is one. Production Engineering and Engineering Research, also related to petroleum production, are the opening chapters, consisting of five and nine papers respectively. Petroleum Economics includes four papers while the chapter on Refining consists of one paper reviewing briefly refinery engineering in 1939.

Few illustrations other than charts are contained in this 597-page volume and it can be safely said that no other publication is so packed with summarized up-to-date information and condensed data relating to production and its problems and technology. A history of production is being written in these Petroleum Division Transactions. The latest addition to the series, Volume No. 136, is available from the A.I.M.E., 29 W. 39th St., New York, at $5 net, bound in cloth.

D-2 Problems Outlined

Standardization activities of Committee D-2 of the American Society for testing Materials under way for the coming year include consideration of a modified grease worker for determining the worked consistency of greases, it is announced by the society. Another matter being considered is the practicability of calibrating viscosimeters by comparison with a master viscosimeter rather than by use of reference oil standards. Photo-electric methods for color measurement will be considered and a revised method for determining sulfur in petroleum oils by the lamp method is being developed.

"The method for determining aniline point, published as information only in the current report, will be further developed and probably recommended for acceptance as a tentative standard during the year. Other important problems being studied by the committee involve relationship between data on carbon residue by the Conradson (D 189) and the Ramsbottom (D 524) methods." Subcommittee XXIII on Carbon Residue this year recommended substitution of a two-piece stainless steel bulb for the glass bulb described in the present Ramsbottom method and added a revision providing for determining carbon residues on a 10% residuum similar to that in the Conradson method. "Co-operative work on gum stability tests and study of service problems on turbine oils by new Technical Committee C will continue actively."

New Committee's Objective Refinery Inspection Code

F. L. Newcomb, Standard Oil Development Co., New York, has been elected chairman of the American Petroleum Institute's new Committee of Refinery Inspection Supervisors. The committee was organized by the Division of Refining. Its first objective is preparation of a code of good practice for refinery inspection procedure.

The committee membership includes Fred Birely, Sun Oil Co., Philadelphia; F. B. Bluhm, Sinclair Refining Co., East Chicago; W. L. Bowler, Pure Oil Co., Chicago; F. C. Braun, Gulf Oil Corp., Pittsburgh; R. S. Bridier, Bradford Oil Refining Co., Bradford, Pa.; W. H. Creel, Phillips Petroleum Co., Bartlesville; J. K. Deichler, Atlantic Refining Co., Philadelphia; G. C. Dick, Shell Oil Co., St. Louis; C. S. Dunham, Socony-Vacuum Oil Co., Philadelphia; M. B. Higgins, The Texas Co., New York; K. V. King, Standard Oil Co. (Cal.), San Francisco; L. D. Mann, Cities Service Oil Co., Bartlesville; W. F. Sims, Panhandle Refining Co., Wichita Falls, Texas; G. W. Watts, Standard Oil Co. (Ind.), Chicago; and H. F. West, Standard Oil Co. (Ohio), Cleveland.

Buses Going Diesel

The majority of new, large buses, both urban and transcountry, are being powered by diesels, according to a survey made by DIESEL POWER, and the two-cycle diesel is found on the majority of buses listed by this publication. Contrary to the expectation of many, diesel buses are reported to be operating on crowded streets without the public realizing the type of power plant.

Largest purchasers during 1939 and 1940 have been Greyhound, Public Service of New Jersey, and Chicago Motor Coach Co. but nearly 50 operators of motor coaches in the United States have purchased at least one. Greyhound now operates over 400 diesel-powered motor coaches, it is indicated. First U. S. purchases of diesel-powered buses were in 1936, it is reported.

Diesel power on railway switching service also shows an impressive list of 550 purchased since 1930 averaging 750 hp. and practically all are diesel-electric driven. In a five-year period the ratio of sales of diesel-electric to steam switching locomotives is reported to be better than 10 to 1.

It is claimed that "electric drive makes diesel power more practical for transportation; diesel power makes electric drive more economical. Diesel-electric drive has established new standards of comfort, speed, and economy for operators and passengers of transit vehicles, from interurban buses to streamlined trains."

S.A.E. Pushing Aircraft Standards

National defense responsibilities of the Society of Automotive Engineers in establishment of standards pertaining to aircraft and aircraft-engine parts and materials, will be handled by C. E. Stryker, well-known Pacific Coast aircraft engineer, it has been announced. Strong demands for further increases in recently intensified aircraft standards have come from Washington sources, Secretary John A. C. Warner said in announcing the appointment.

* * *

Pure Installs Clay Treater

At its Smiths Bluff, Texas refinery, the Pure Oil Co. is installing the Gray clay treating process to treat 1800 barrels per day of high octane gasoline produced in their gas polymerization plant. This installation is one of the largest built to date for treating polymer gasoline.

The Republic Oil Refining Co. has put into operation a new clay treater to refine cracked gasoline.

Personnel Management is Key To Kentucky Marketer's Success

MAYBE it's because Dudley Burke senior member of the firm, always wears mismated socks. He accidently started that custom six years ago when the Kentucky Independent Oil Co. was organized.

Or perhaps the placard over the desk of the junior member, O. A. Bakhaus, may have something to do with it. The card reads "IF YOU AINT ON YOUR TOES YOU'RE ON YOUR NOSE."

But this writer believes that the success of these men, still in their early thirties, is due to good management. For they have really made a success of the oil jobbing business. They are still growing. On Sept. 7 the company will celebrate its sixth birthday.

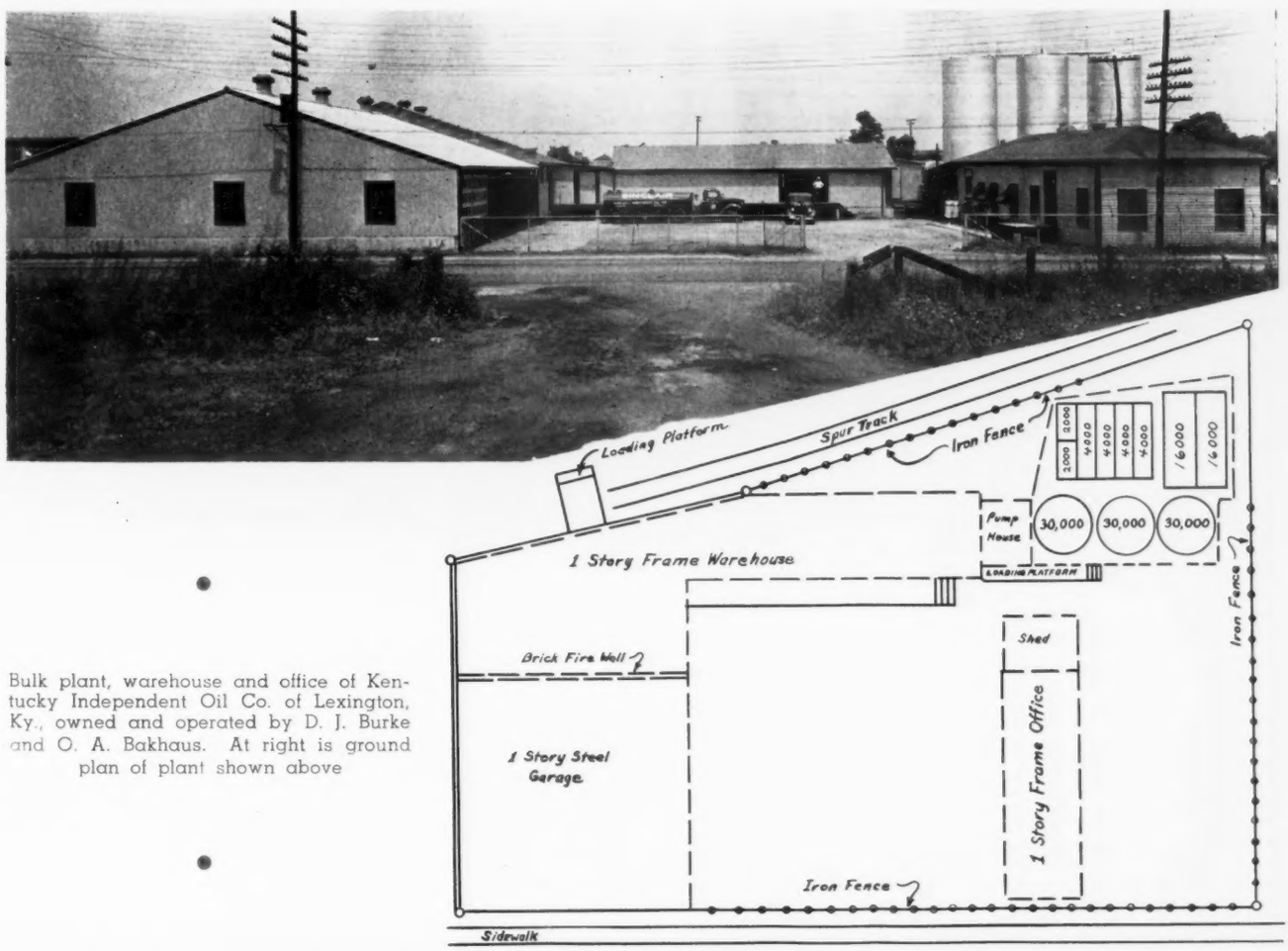
In celebrating their sixth anniversary, it will be with work—as usual. "Bake" may kid "Dud" just a bit about his socks; about getting down to work on their opening day before dawn sporting a red sock on one foot and a yellow stripped hose on the other. That morning 6 years ago it was a little embarrassing to Burke, but from then on he stuck to the custom for "luck" just as religiously as some folks would not be caught without their rabbit foot.

And "Dud" may kid "Bake" a little bit about that "on your nose" slogan over his desk. But the card will stay there just the same. It was not original with Bakhaus. As he was leaving Union Station in Cincinnati for his new venture he heard these words used to admonish a departing son by his father. So he resolved to make that his business creed.

Six years ago these former major oil company salesmen raked up around $5000 between them. They had one 400 gallon tank truck. In September, 1934, they sold 12,000 gallons of gasoline. September this year they expected to hit close to 375,000 gallons.

From a little trackside bulk plant in which they started, they have moved to a plant of their own. It covers better than a half acre of ground. Equipment is as modern as can be had. The office, garage, warehouse and repair shops embrace every item for efficient operation that can be had.

Storage equipment consists of three 30,000-gallon storage tanks for gasoline. They also have two 16,000 and five



Bulk plant, warehouse and office of Kentucky Independent Oil Co. of Lexington, Ky., owned and operated by D. J. Burke and O. A. Bakhaus. At right is ground plan of plant shown above

Dudley Burke (left) and A. A. Bakhaus who have built a successful independent oil marketing business in Lexington, Ky. They started this business six years ago with $5000, a 400-gal. tank truck, and some ideas that worked

4000-gal. tanks. More concerning the plant later.

Other jobbers and marketers wonder how it is possible to do a job like that in a low farm income state. Particularly since the company is not in the so called "cut rate" business.

How was it done?

If the writer knew the answer, he would have a plant like that of his own. But in many years experience connected with the oil business, he has seldom seen such success.

So let's take a trip down in the Bluegrass and get acquainted with these friendly Kentucky jobbers. Maybe we can figure out how they do it.

First let's talk about their personnel. Surely there must be some system for hiring and training men when you learn that less than five have been "let out" during the company's existence. There is.

In the first place, next to selling, more time is devoted to the training of the personnel than any part of the business. Mr. Bakhaus made an extensive study of personnel problems when with his former major oil company connection. As a result, when a man is hired it is pretty well known that he is not only capable of doing his job well, but also growing with the company.

Every employer knows the importance of hiring good men. It is the backbone of good business. But some employers seem to have a "knack" of selecting better help than others. How they do it is hard to describe. Roughly it would seem to be a matter of judgment. Larger companies with elaborate personnel systems have certain policies they follow. But in the case of distributors or jobbers, like Burke and Bakhaus, they should use even more care in selecting their personnel. For in a small company a very few "square pegs" can turn the ink on the ledger from black to red.

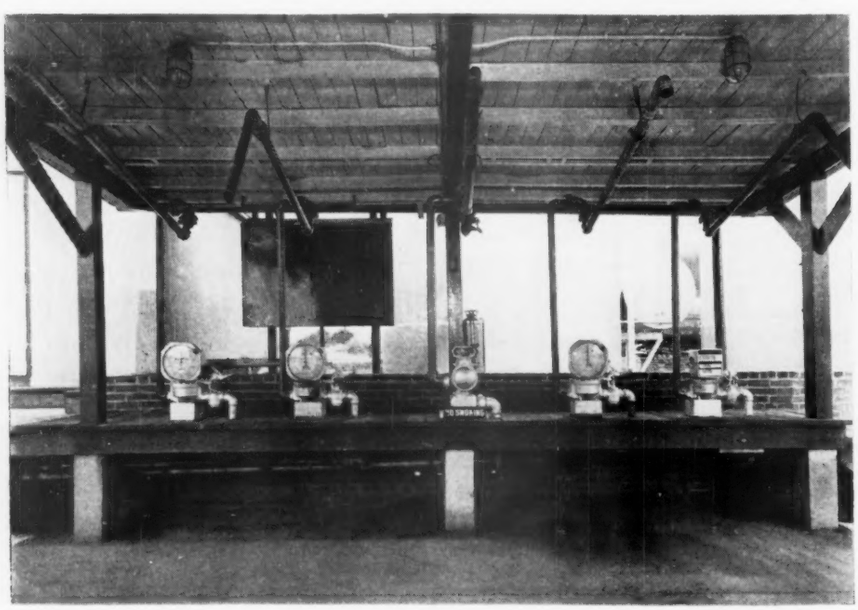
There is nothing new about the system used by Kentucky Independent Oil Co. They simply put PERSONNEL at the top of their operations and keep it there. If fraternity or lodge brothers or kinfolks don't measure up, they don't get a job.

Take for instance the hiring of a truck operator: He must be a first class salesman on his route. He must also be able to put on his "good clothes" and go out and sell. It's not easy to find such men. But Bakhaus and Burke have them.

Among the 22 salaried employees, every religious denomination is represented. And men capable of contacting, pleasing and selling every one of the different groups of society will be found in the organization. And that goes for the university professors on the hill to the mountain boys interested in buying a "right smart lamp oil" for pappy's private business "down in the hollow."

In addition to commission salesmen and tank truck salesmen two regular salesmen are employed. They are carefully selected for their selling ability. Each sell more than 2000 gals. of oil and 1000 lbs. of grease per month.

As new men are employed, they are hired with the thought of taking the place of other men as they are promoted or grow older. Both Burke and Bakhaus have been extremely active in social and civic affairs. They were particularly so with the younger set. Now, as their responsibilities increase,



Latest meter equipment is used throughout the plant and on all trucks of the Kentucky Independent Oil Co. Messrs. Burke and Bakhaus, the owners, consider their investment in meters the best money they ever spent

No pensions

You never have to pay an old age pension to a Dubbscracking unit—nor unemployment insurance either

If you have an oldtimer in your plant you can renew its youth by adding the newest Universal improvements and features You can lengthen cracking runs, increase yield of gasoline or other wanted products, improve octane rating and reduce costs

Universal engineers will be glad to show you how

And you never see a Dubbs unit out of a job They run for all they are worth to keep up with the demand for Dubbscracked gasoline

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Two of the fleet of 11 tank trucks—all meter equipped—operated by Burke and Bakhaus. They also operate one stake and one service truck. Drivers wear specially designed uniforms

their activities are more with the older business, civic and social crowd. But their personnel system of having a lieutenant for every job prevents losing contact with their former younger groups. They have young men on the payroll to take up this activity where they have stepped out.

In employing men, those with previous oil company experience are preferred. But they do not take men from their competitors. And they treat their own employes so well that competitors can't take their men.

The company operates in 16 counties around Lexington. There are no large cities. It has bulk plants in Maysville, Sharpsburg, Paris and Lexington. In addition to 11 tank trucks, it operates one stake and one service truck. A few peddlers work on country routes. Fourteen owned and leased stations are operated.

PERSONNEL management plus salesmanship would seem to be the backbone of this marketer's success. So let's take a look at some of the sales methods used in the operation of these plants, trucks and service stations. When we do, we will see that proper management of personnel sticks out like a sore thumb.

Suppose we start on the service stations. That end of the business is considered so important that it is personally supervised by Burke and Bakhaus. As a result the retail outlets are well operated. They are clean. The operators know that one of the bosses is coming around every few days. They also know about that slogan, "If you aint on your toes, you're on your nose."

In the selection of operators for their stations, which are on a lease basis, the same care, thought and study of the men is given as in the case of hiring men for other jobs. Men with previous station experience are employed if possible. But not those fellows who drift from station to station. Men acquainted with the neighborhood in which the station is located are always selected. No particular age limit or educational requirements are necessary. But before a man is checked in a station, he must be a first class, all-around salesman.

While the company conducts no regular training school, men in the station receive continuous instruction. Both Bakhaus and Burke have been station supervisors in the past. They pass on the knowledge gained in that work.

They also make frequent trips to points outside of their territory, study the best operated station and pass on the newest developments to their operators. They also read and pass on everything pertaining to station operation they can find.

There are no spasmodic clean up or solicitation drives. The stations are kept clean and soliciting is done every day.

The "10 block" plan of solicitation is used in Lexington. Car owners within a radius of 10 blocks are solicited. Usually personal calls. Sometimes the phone is used. Direct mail is also used. There is nothing new about that system. Its only difference is that these jobbers see that it is done. It gets the business.

Frequent sales meetings are held, but not at regular intervals. No meeting is held until they really have something to say to the men. When operators are asked to attend a meeting they can be sure they are going to hear something of value to them.

As soon as the partners learn of their supplier's advertising program, they work out their local tie-in program and present it in their meeting.

Station operators are taught the value of window display. Frequent changes are made. There are always seasonable items on display in the show windows. But by far the greatest attention is paid to outside displays.

OUTSIDE there is always a display of tires, pyramids of oil cans, oil filters and other auto necessities.

"We don't sell accessories, but necessities", these marketers explain. Careful checks are made as to the best location for the "necessities." For instance it was found that higher priced tires in line of vision from the Ethyl pump produced more inquiries, and cheaper tires near the third grade pump sold more of that class of tires.

A very distinctive uniform has been developed for station men, dealers and employes. It is of light blue gabardine material. The trousers have a light ½-inch stripe down the side. The supplying company insignia is on the shirts and caps. One complete uniform or cap, shirt, tie, trousers, windbreaker and oil-proof type shoes runs less than $15. The company pays half the cost.

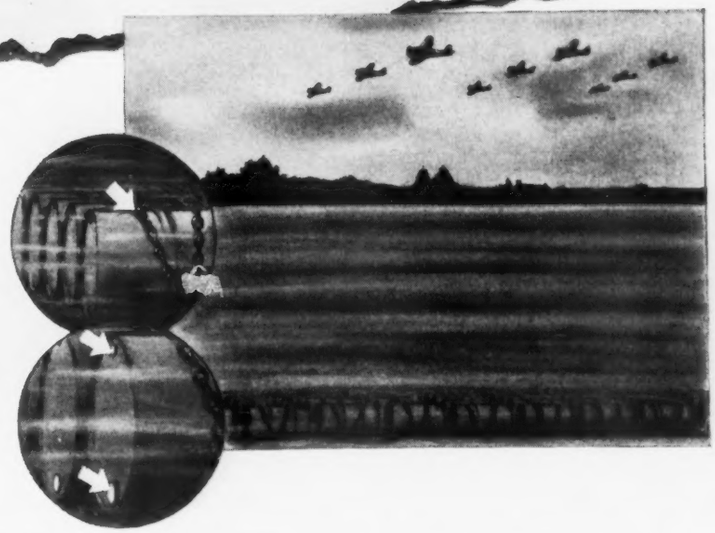
The "engineer" of the outfit is Mr.

(*Continued on page* 38)

One of fourteen stations operated by the Kentucky Independent Oil Company. Outside and inside displays + cleanliness + salesmanship = profitable operations for this independent marketer

EUROPEAN NATION FINDS WAY TO PROTECT OIL AND GAS FROM BOMBING

Vast Stocks Concealed Under Water



PROTECTED FROM BOMBS
by chaining drums under water

PROTECTED FROM CONTAMINATION
by TRI-SURE CLOSURES

To prevent the bombing of oil and gasoline stocks, one of the European nations devised the scheme of anchoring the drums under water safe from the eyes of the bombers. And safe from the danger of leakage and contamination, too, because the drums are protected by Tri-Sure Closures.

You, and your customers too, want your product safeguarded from those "bombers" — substitution, pilferage, leakage and waste.

The way to safeguard your product is to equip every drum you ship with Tri-Sure Closures — the closures that give the triple protection of a perfected seal, plug and flange. Write today for free booklet, "The Story of Tri-Sure", containing complete information.

AMERICAN FLANGE & MANUFACTURING CO. INC.
30 Rockefeller Plaza, New York

Tri-Sure

Reg. U. S. Pat. Off.

CLOSURES

Soft Drink Sale Encourages Station Cleanliness

Many station managers believe that a soft-drink cooler, prominently displayed, will bring in customers for gasoline and oil

NPN recently surveyed the soft drink business in service stations from oil company management viewpoint.

Results indicate that this fast-growing business has both advantages and headaches to consider.

Major oil companies interviewed and operators of stations selling soft drinks agree that it helps the sale of other products at stations.

While the profits are not large for an individual station, by efficient management and a small amount of attention some money can be made from the soft drink operation in addition to business it might attract.

It is possible for management in its supervision or direction of stations now in the soft drink business, or contemplating going in, to use it as another wedge in promoting cleanliness for the entire station, including rest rooms. Even a rather poor station housekeeper has great scorn for a "dirty-spoon" restaurant. Selling of soft drinks places him in the role of food or drink handler. As such, he will more readily see the importance of clean surroundings.

Motorists in greater numbers are stopping at stations for soft drinks. Some stop because it is a habit. Others are afraid of drinking water away from home. Still others to relax, and perhaps to use the rest rooms. Many buy a drink to show their appreciation. But by far the greater number stop for gasoline and oil where they can get a soft drink and go on refreshed.

In neighborhood stations, new customers are often gained from neighbors who walk down for a "coke." Or perhaps a half dozen bottles for the family, or unexpected guests.

Stations in industrial sections often make friends and customers of workers who walk down to the "corner" for a cold drink with lunch.

Conversely, in going into the soft drink business, or trying to get it on a more efficient basis, there are some headache angles to consider.

Out of a given number of station operators, there are certain to be some men who are just naturally "sloppy." They always have been and always will be. Yet they are sufficiently over the border to do a fair job of housekeeping, and perhaps a good selling job. This type man in the soft drink business would probably hurt other station sales. It is easier to "mess up" the looks of the whole station with a dirty, poorly serviced half-stocked ice box than any other method of carelessness.

There is also the fellow who spends too much time counting bottles, "pushing" soft drink sales and generally fooling around with the business when he should be soliciting more profitable business.

Then there is the accounting or bookkeeping side of the question. Does it involve enough record-keeping to offset any possible profits?

Does it antagonize good gasoline customers in the same line of business?

Is the investment in boxes, license fees, and the like, justified?

As there is nothing in it for a marketer in the form of a commission, who leases his stations, is it worth his while to spend time in educating his lessees in the proper operation of the soft drink business?

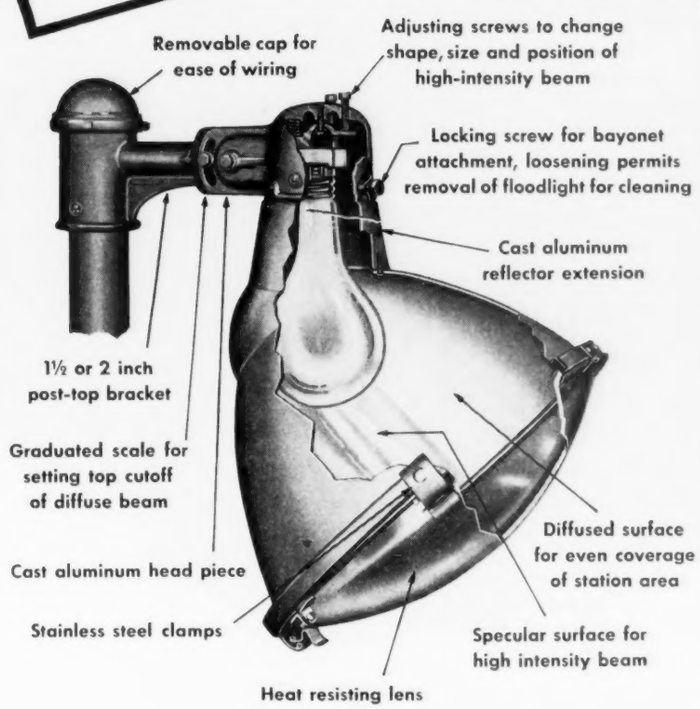
The answer to these and other questions will be found in the survey. N.P.N. is attempting to neither glorify nor condemn the business. Here is its "Inquiring Reporter's" story:

To get the various angles on the soft drink business N.P.N.'s Inquiring Reporter rode a soft drink truck. He visited stations with soft drink salesmen, and without them. He talked with soft drink company executives, ice company managers and oil company sales managers.

Stations of every type, from the "joint" with the sign, "We Don't Know Where Ma Is But We Have Pop on

HERE IT IS

ADJUSTABLE FLOODLIGHT for SERVICE STATIONS


Removable cap for ease of wiring
Adjusting screws to change shape, size and position of high-intensity beam
Locking screw for bayonet attachment, loosening permits removal of floodlight for cleaning
Cast aluminum reflector extension
1½ or 2 inch post-top bracket
Graduated scale for setting top cutoff of diffuse beam
Cast aluminum head piece
Stainless steel clamps
Diffused surface for even coverage of station area
Specular surface for high intensity beam
Heat resisting lens

LOOK AT THESE UNIQUE FEATURES:

- *Tailored Lighting* to suit your station;
- *Two Floodlights in one;*
- *You can adjust both beams* yourself;
- *Absolute Top Light Cut-off;* Does not annoy others;
- *Puts the Light Where* you want it.

THE WESTINGHOUSE SERVICE FLOODLIGHT

Combining two floodlights in one, the new Westinghouse Service Floodlight gives you easily adjusted "on the spot" station illumination . . . enabling you to put the light *where you want it.* This new unit actually *tailors the illumination* to suit your individual station's requirements . . . giving you a sharp, well-defined spotlight and broad, general over-all illumination from the same unit.

The new Service Floodlight is available in 500 watt units for both bipost and screw-base lamps, in 750-1000 watt size for bipost lamps only and for 400-watt DH-1 mercury lamp. If you are building a new station or modernizing your present location, be sure to ask your nearest Westinghouse Lighting Distributor for complete details. Or write Westinghouse Electric & Mfg. Co., Lighting Division, Edgewater Park, Cleveland, Ohio.

TUNE IN "MUSICAL AMERICANA," N. B. C. NETWORK, COAST-TO-COAST, EVERY TUESDAY EVENING.

Westinghouse Lighting Equipment

Many stations believe that the soft drink cooler should be located at side of the driveway but this station operator finds it more convenient to place it on the pump island

Ice," to those in the "carriage trade district," were visited. Cities and small towns in several districts of the country were visited. Also called upon was the man across the street who might get mad if the station took on this line of goods.

Starting with statistics:

According to the head of one of the country's largest soft drink distribution plants, the consumption of soft drinks in bottles—which has no connection with the beer and wine business—has grown from 60 to 100 bottles per capita in the past 3 years. It's still growing. That's 2 bottles per week for everybody from Grandma to Junior, including Uncle Frisbie who drinks nothing but that stuff the W.C.T.U. says is "bad."

In consideration of sales manager readers who are interested in results rather than statistics, only a few statistics will be quoted here. Two examples seem to be outstanding.

The first is, according to "National Bottlers Gazette," which is to the bottle industry what N.P.N. is to the oil industry, the national gross profit on beverages (soft drinks) is 33.4%. That, compared with 23.7% on tobacco products, shows that soft drinks compare favorably with other sources of income.

Another interesting figure, developed by one of the largest major oil companies which spent good money in finding out, is that 60% of the soft drink customers ask for soft drinks by name.

So much for statistics, which show that the business is increasing, and that the better advertised brands are the best sellers.

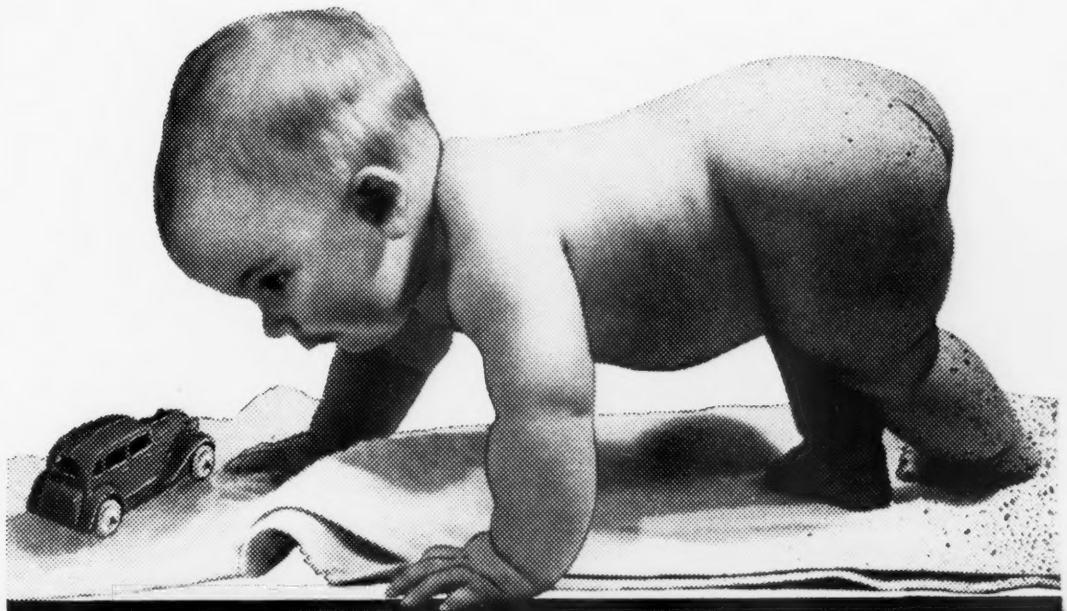
Next definitely established fact, so far as the oil industry is concerned, is that MANAGEMENT, with cleanliness as a foundation, is the keystone for profitable selling of soft drinks in service stations and dealers. Half clean, improperly iced coolers, with dripping water, bottles strewn about and general untidiness, usually went with otherwise poorly operated stations.

Cleaner stations and cleaner rest rooms, where soft drinks were sold, seemed to go hand-in-hand with more business both on petroleum products and soft drinks.

Now let's get specific and look at an aggressive major oil company's soft drink operations as handled by its home city division office. This company operates a large number of its own stations, but only sells soft drinks 5 months a year. It is located in the northern part of the country.

Three years ago its soft drink sales per station during the 5 month period averaged $173. In 1939, average was $243 per station. This is at the rate of 15 cases per day against one case per day 3 years ago. The 1940 season will be larger. Net profits are growing each year because the company is studying

"That will be $1.40 for gasoline, 25c for oil and nickel for the tomato juice, sir. Thank you, and stop in on your way back"



First Step to IMPROVED PERFORMANCE

NEW Higher Anti-knock

Phillips 66

HEAD YOUR CAR for the pump marked with the Orange and Black 66 Shield. That's the first step, and a big step, in the right direction.

Filling the tank with NEW, improved, **high anti-knock** Phillips 66 is the second step. And the third is: **Step on it!**

That gives you a rapid demonstration of the improved performance of which your car is capable. Feel that rush of fast, sweet power . . . zooming pick-up . . . flexible response. Note absence of knock on quick get-away and hill climbing.

Remember, the **octane rating** of NEW Phillips 66 Poly Gas is improved so greatly, raised so high, that it delivers practically the same kind of premium performance for which you formerly had to pay 2¢ extra per gallon.

Find out how Science has improved gasolines . . . and discover how much more you get for your money . . . by stopping for a tankful of NEW Phillips 66 Poly Gas at the Orange and Black 66 Shield.

Phill-up with Phillips for *Greater Mileage*

Typical of PHILLIPS PETROLEUM CO. advertising to build car-owner acceptance of the NEW Phillips 66 Poly Gas is this striking ad now appearing in large space in newspapers throughout the Phillips marketing area.

Right on the "front porch" of this station was found to be the best location for the soft drink cooler

proper methods of icing, the best types of coolers, consumer demand preference, where the boxes can be placed for best results and simplified accounting.

A survey by this company disclosed that the best system of stocking drinks was to leave it to the individual station managers. Managers were furnished an approved list of suppliers from whom to order the best-selling drinks. This held inventories to a minimum. This major company pays its station salesmen 7% commission on soft drinks, which is the same as on automobile accessories.

THIS company formerly had all soft drink purchases billed on its own books monthly. But this involved purchase orders, billing and checking and other bookkeeping expense. Now this company has an inexpensive simplified system that works.

Station managers pay cash for all drinks and ice purchased, and enter the transaction in the paid-out column of the station's daily report. They then issue an "authorized purchase order" to the supplier of the drinks. A copy is kept for station record. The daily report form provides space for daily sales of soft drinks.

As far as the company is concerned, the only accounting involved is the difference between the cost of the drinks and ice and the money received from the sale.

The company auditor checks the inventory and sales. It is up to the station manager to see that there are no shortages, the same as he does on oil, gasoline, grease or accessories. As a general rule no inventory is taken when the station changes shifts. That is up to the individual manager.

The company issues no special instructions on how to sell the drinks, but does see that the cooler is properly placed, kept clean, iced and stocked.

A visit was made to this company's station showing the largest sales and profits on soft drinks in the division. Station is located on an important highway. Competitors in the soft drink business are two super stations on opposite corners and a soda fountain next door. The fountain man said he did not consider the station his competitor, as the average person buying at a station would not stop at his place anyway.

The soft drink cooler was situated so that those waiting on themselves could not help but see a display of accessories in the station window. Merchandising! The cooler was outside at a 45 degree angle near the door. This made it visible from every approach. It was painted red, with no advertising, and there was no sign to advertise soft drinks.

Ten full cases and 8 partially filled cases were in stock; 4 of the best seller. Sales average better than 3 cases per day for the 5 month season. The cooler replaced a cheaper model, reducing ice consumption from 40 to 30 lbs. per day. It is always well stocked.

Many of this major company's stations were visited. They uniformly showed:

(1)—Thought in placing the soft drink coolers where most convenient for the customer to see and use. They were spotted to lead the eye to see or read something that may cause sale of some other merchandise.

(2)—A good quality cooler for minimum ice loss.

(3)—A stock on ice to fill the average request and sufficient reserve.

(4)—100% cleanliness. Empty bottles out of sight. No mess around the stand.

From this oil company's standpoint, therefore, even with 7% commission to the station men, money is being made on soft drinks by proper management, and sales are growing yearly.

Marketers not operating their own stations, but supplying them with petroleum products, should at least have sufficient knowledge of the soft drink business to advise their dealers on the subject.

A marketer's only reward for this concession is from the increased business the station may get as a result of selling soft drinks. If, by poor operations, a station dealer is losing money on drinks, he will blame the loss on the oil company, the brand or the marketer; not on himself. Money can be lost on soft drinks by giving them away, or not watching the sales; or buying too many brands and other poor management practices.

It would seem, therefore, that education by marketers would pay. If not directly, then in other ways. The soft drink people, ice manufacturers and refrigeration experts are more than anxious to co-operate in educating dealers as to proper methods.

N.P.N.'s Inquiring Reporter failed to find a single independent dealer who kept any record on his soft drink business. Oil companies or marketers can easily work out a simple form to tie in with other records they furnish on gasoline, oils, tire and accessory sales.

UNFORTUNATELY, there are no statistics as to how selling soft drinks helps a station's gallonage and oil sales. All operators visited—and some of them were smart ones too—were positive that handling soft drinks helped the sale of petroleum products. This is particularly true on tourist routes.

Even in neighborhood stations, operators say that soft drinks help their business. One operator cited the case of a vice-president of a large manufacturing plant who stopped one morning for an aspirin tablet.

The operator asked him about his gasoline business. He was told the company had its own tanks. While cleaning the windshield, he spotted smooth tires on the car. He made an appointment to talk tires, and sold 4. Later, he sold a battery. Later by good salesmanship he got the gasoline and oil business regardless of the tank at the plant.

A small refiner in the south, operating a number of leased stations, but only one company station, gives all the profits on drinks to the company social organization. As sales amount to 2 cases a day, this takes care of the "flower fund," decorations for Christ-

They last longer . . . cost less to operate . . .
made of

N-A-X
High Tensile

DUCTILITY
ITS INHERENTLY FINER GRAIN
MAKES ALL THE DIFFERENCE
STRENGTH

. . . empty or loaded, over rough roads winter or summer, they have extremely high resistance to IMPACT and FATIGUE

There is no trick to building mobile equipment lighter to increase payloads. But—the question designers, builders, and fleet operators must ask is—"Will the equipment have the stamina—the resistance to impact and fatigue—to keep rolling, economically, regardless of road or weather conditions?" The answer is YES if the equipment is made of N-A-X HIGH TENSILE.

The reason N-A-X HIGH TENSILE makes this possible is that it is unusually ductile and has extremely high resistance to impact and fatigue, at normal as well as at sub-zero temperatures. In addition to these important features, N-A-X HIGH TENSILE has a high yield point, high ultimate strength and marked resistance to abrasion and corrosion.

Builders of mobile equipment, like The Heil Company of Milwaukee, Wisc., who designed and constructed seven Heil Quality-Built Trailerized Trains for Shell Petroleum Corporation, St. Louis, Mo., prefer N-A-X HIGH TENSILE. They can fabricate it easily, usually without making any changes in regular shop practice. Then, too, they know that by using N-A-X HIGH TENSILE their equipment will give long, safe service—make for greater sales and increased customer satisfaction. Make sure you get the most for your money—specify and get N-A-X HIGH TENSILE.

A Great Lakes engineer will be glad to call, show you where you can use N-A-X HIGH TENSILE to advantage. Ask for one to call—wire, write or telephone—no obligation.

GREAT LAKES STEEL CORPORATION——DETROIT, MICHIGAN

Boston, 460 Statler Office Building; *Buffalo*, 1000 Walbridge Building; *Chattanooga*, 18 Volunteer Building; *Chicago*, 1026 Builders Building; *Cleveland*, 820 Leader Building; *Dayton*, 1401 Third National Bank Building; *Indianapolis*, 1215-17 Circle Tower; *Minneapolis*, 714 Midland Bank Building; *New York*, 405 Lexington Avenue; *Philadelphia*, 407 Liberty Trust Building; *St. Louis*, 3615 Olive Street; *San Francisco*, 824 Sharon Building; *Toledo*, 906 Edison Building. *Montreal, Quebec*, Drummond, McCall & Co., Limited; *Toronto, Ontario*, Peckover's, Limited.

division of NATIONAL STEEL CORPORATION
Executive Offices, Pittsburgh, Pa.

SEASONAL RATIO OF SOFT DRINK SALES

Nation-wide, sales of soft drinks in winter months run about half of those in the hot weather months, reports the American Bottlers of Carbonated Beverages Association, from its headquarters in Washington. Their report covers all kinds of outlets, in all sections. But this ratio would not hold true for a service station with snow banks around it for 2 or 3 months of the year.

However, the association does say that for most types of outlets there is much less difference now than a few years ago, in volume of sales, between the warm and cold months. A survey of sales in 6-10 oz. bottles by months in 1939, from all kinds of outlets, shows the following ratios:

	Per Cent		Per Cent
January	5.1	August	12.3
February	4.9	September	9.9
March	6.5	October	7.6
April	7.2	November	6.4
May	9.8	December	6.7
June	11.3		
July	12.3		100.0

Total production in the U. S. of carbonated beverages in 1939 was 354,478,839 cases (24 bottles) compared with 191,315,369 cases in 1931. Of the 1939 output, nearly 65% was in 6-7 oz. bottles; 6% in 8-9-10 oz. bottles; 14% in 12-oz. bottles, the rest in other sizes.

The association said a survey in 1 state, among service stations doing the largest volume of general business, showed that soft drink sales were 3.3% of their total sales.

mas parties and other employe social activities.

Another company operating 15 company stations, leaves it entirely up to the manager as to whether or not he sells soft drinks. Twelve of them do, and whatever they make out of the soft drink business is theirs. This is considered as a bonus.

Very few stations on N.P.N.'s survey had given any thought to the most favorable placement of coolers, or thought much about the whole business as a matter of fact. They simply sold soft drinks.

SOME stations were found, usually the dirty, poorly-managed ones, which didn't believe in selling soft drinks. They didn't think they could make any money out of it; ice ate up the profits; people would help themselves; nearby stores might object.

In some parts of the South, Texas grape fruit juice in 5-ounce cans is making great headway as a station soft drink item. Customer usually drinks out of the can, but a paper cup is provided. It is said that sales of this canned juice increased from 4 to 40 million cans per year.

Many better-type station operators selling soft drinks think they are O.K. as an accommodation item, but they don't know whether they make money on them or not. However, they cite examples of new customers secured as a result of soft drink sales. They tell of tourists who stopped for a drink and bought other items. These are the type dealers that companies or distributors can profitably educate by having some knowledge of the soft drink business themselves.

Let's dig into the soft drink business from "taw." Some of the Inquiring Reporter's stuff will be old to oil men who have been in the business long.

Here is how to start on a very modest outlay. For the average station it costs:

1 first class cooler	$18.00
2 cases Coca Cola	2.60*
2 cases other Cola	2.60*
2 cases other drinks	2.60*
50 pounds of ice	.22
	$26.02

*Includes deposit on first order.

Added to this cost will be the license fee for selling soft drinks, which varies with the locality. In some large cities it is $1 a year, or some other small amount. In some communities, license fees to engage in this kind of merchandising must be paid to the state, county and municipality as well. To be on the safe side, the oil marketing company or individual station considering selling soft drinks should first find out what the license fee will be for each outlet.

Ice prices will also vary with different localities, but those just given are about average.

The above investment, plus the license fee, is all it takes to start selling soft drinks. After the initial order, the average cost per case of 24 bottles for fresh supplies will be 80c. It sells by the bottle for $1.20 per case.

Sale of one case per day would give a gross profit of 40c. Icing and interest on investment should run 15c per day. This is a daily gross profit of 25c. That's $7.50 per month if sale of only one case per day is maintained. In a year, if sold the year around, on an initial investment of less than $30, $90 is returned, plus other business gained. The bottle deposit is always returnable. Coolers depreciate slowly. Most companies charge them off in 5 years.

When the cooler is purchased, the first consideration is LOCATION. Ideas of station operators vary, but the dominant thought should be to have the cooler where it can be seen; where it is easy to get to; where it can be watched; and where, if possible, customers leaving the rest rooms will spot it during that second when they come out and glance around to get their bearings. Most important of all, it should be spotted where, when the customer stops "for the pause that refreshes," he can see an item that the station wants to sell, or a sign that will lead to a sale.

Next after location, is the proper icing of the box, which is extremely important. Every operator should know how to do it. Experts in the ice and bottling field recommend that cracked ice be used. It gives a more even temperature to the bottles on ice than cake ice. In one hour, it brings the drink to the 38 to 40 degrees which national surveys show to be best for beverages. From the sales viewpoint, it prevents the customer, who selects his own, from getting an improperly cooled bottle—and mad.

Cracked ice in most localities costs the same as lump ice. Customers have been lost by getting warm drinks on a hot day. Ice men figure it costs from 11 to 22c per day to ice an ordinary cooler of good quality. It runs higher in cheaper boxes.

WITH a stock on hand, properly iced, the station is now ready for actual

With a stock on hand, properly iced, the station is now ready for actual sales. Bottlers and oil companies agree that soft drinks in stations should sell themselves, and that no special sales talk is necessary. If 60% call for the product by brand name, cleanliness and a few little sales services are all that is necessary for the actual sale, once the prospect has spotted a sign or a cooler.

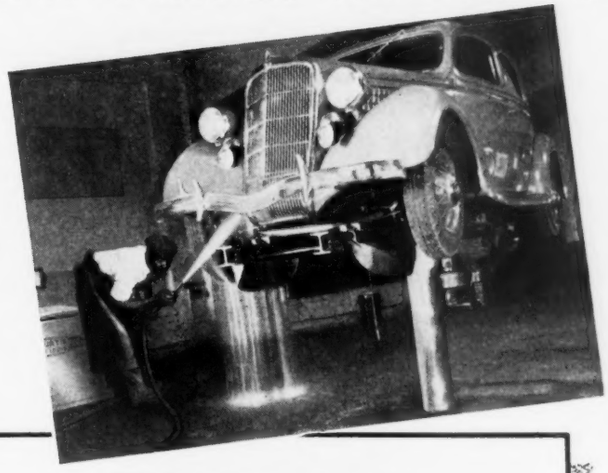
For the ladies particularly, use of a paper napkin or a small bag around the bottle to prevent dripping or soiling gloves is appreciated. Paper cups are also appreciated. Wiping the top of the bottle with a paper napkin is desirable for the particular customer.

Once in the business, the dealer will be solicited by many soft drink people. There are several hundred brands to choose from. Every drink added is more investment. But it will be found that 4 drinks, including the Colas, orange, root beer and the most popular locally made product, or the preference of the individual neighborhood, will satisfy most customers.

The larger soft drink companies carry liability insurance to protect themselves against claims of injury, from a piece of glass in the bottle, for instance. In buying drinks, it might be well to inquire as to that point. Lawsuits are no picnic.

The problem of people helping themselves, or forgetting to pay, is no more of a factor than keeping customers from taking spark plugs or cans of

It Will Pay You to Take Advantage of the LOW PRICES on this *new, profit-making*



CURTIS Car Washer

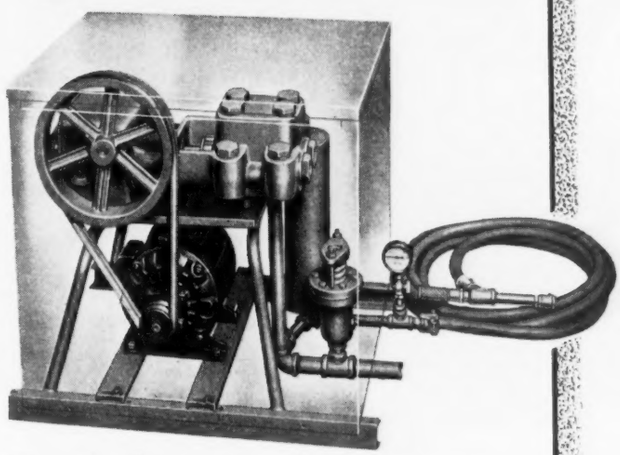
Now you can get the attractive profits from car washing with a smaller investment than you ever thought possible. The new Curtis Car Washer is designed to make money for you. It's the buy of the season at its price — for Curtis' long experience and skill in building fine washers is incorporated in this new model.

It pays for itself out of income with as little as sixteen 50c washes per month — and you'll easily do many times this volume.

Car owners appreciate power washing for they know it makes their cars really clean — adds life to their cars. Power washing often discloses damaged or lost parts that need servicing or replacement — it brings in many extra, profitable jobs to your shop, never revealed by hand washing.

Many progressive shops use power washing to merchandise their other services. For instance, offering a free wash to attract new customers, or giving a free car wash with a major car repair job.

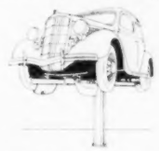
A satisfied car wash customer is a valuable asset. He is a prospect for many other profitable services. Get full details and prices on the money making possibilities of the new low-priced Curtis Car Washer — send the coupon today.



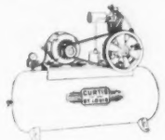
Curtis features that increase efficiency and cut your costs

1. Low first cost
2. Simplified construction
3. Precision workmanship
4. Silent V-belt drive
5. Timken Bearings
6. Self-oiling
7. Four sizes (1 or 2 guns)
8. Built by Curtis— pioneer in the car washer field.

Curtis Four-Post Electric Lifts . . . easily portable . . . no excavation or floor sockets . . . maximum accessibility . . . completely safe.



Curtis Hydraulic Rotating Lifts . . . oil locked . . . safe . . . 16 ft. self leveling platform . . . drop away wheel guides . . . handles all cars.



Curtis Compressors . . . dependable, low cost air supply . . . precision built for long life . . . ½ to 10 H. P. single and two stage.

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1965 Kienlen Avenue, St. Louis, Missouri

Please send me complete information and prices on the Curtis Car Washer.

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City ..... State .....

oil. It is a matter of being on the job and tending to business.

The size of the bottle is a matter of customer preference. They run from six to 12 ounces. The larger bottles are often split. "Kids" like the larger bottles. The 6-carton container to carry away is usually not a big seller. But in many neighborhood stations, where there is no nearby grocery, quite a business is done by stocking them.

Deposits on bottles vary from 2 to 5c. Bottlers will furnish tickets to be used as due bills to prevent an accumulation of bottles not purchased at the station.

Generally, headaches on bottle returns or losses belongs to the bottler. He very seldom "gets tough" with the station when a few bottles are short.

Stations just opening should consider whether or not it is profitable to sell soft drinks the year around. In the North it seems to be gradually coming to a year around business. People drive in heated cars all the winter. They get warm. When they get warm they get thirsty. Then they often stop at a station for a soft drink.

Those wishing to go into the business with a better dispenser, or wishing to branch out, have an unlimited field. There are as many kinds of coolers in the electric field as there are motor oils—streamlined jobs, coin operated machines, even automatic mixing devices where the buyer deposits a nickel and gets his drink in a paper cup.

One of the larger oil companies owning its own cooler boxes, when changing from salary to lessee basis, sells the lessee the cooler at a fair price. In some cases it lends coolers the same as equipment when the operator is short of cash. Rather than see him not in the business, they prefer to lend him a cooler until such time as he can buy it himself.

The coin machines range from $55 to $550 for the self mixer. They have the advantage of keeping closer track of the drinks. In some places they may be had on a commission basis with no investment.

Very few of the "mixer" type devices were found. One large super station installed one on a 10% commission arrangement. The operator pays the electric bill, which is about 3c per day. This is the only drink handled. Since it has been in operation it has averaged 1200 sales per week. That is a net profit of $5.79 per week, with no investment.

Operation of the electric boxes run about the same as the cost of a home refrigerator. A good outfit can be bought for $95. Sales of these units are increasing, particularly where the soft drink business is an all-year item. With increased year-round demand for soft drinks, electric units may become more general.

NPN's Inquiring Reporter has given you about all the dope on soft drinks that space permits. However, he still has a file of statistics, surveys and other general information, which he will gladly dig through and furnish to any NPN reader interested in the subject.

Personnel Management is Key To Kentucky Marketer's Success

(*Continued from Page* 28)

Bakhaus. He is always studying how to modernize and speed up activities. Any equipment that he finds will make the plant more efficient will be installed. Even if it means throwing out something they purchased this year.

One of his latest money saving devices is a 500-gal. underground tank, buried by the side of the track where tank cars are unloaded. When the gasoline is pumped to the storage tanks, a hose drains the gasoline left in the bottom of the car. Bakhaus claims he more than keeps one truck running from the drainings that are thus saved.

As this is the story of a successful sales operation, the technical details of the plant will not be covered. The accompanying photo and ground plan shows the layout. These gentlemen advise that in buying equipment such as meters, trucks, tanks etc. they read the advertisements of the latest developments, get in touch with the manufacturers and buy when convinced the equipment is what they need to operate more efficiently.

The storage at the plant consists of three 30,000 gal. vertical gasoline storage tanks for regular and Ethyl. All are equipped with 2.5 in. lines. They have 6 in., 8 oz. pressure and vacuum escapement valves, along with 2-in. conservation vents.

In order to keep an exact and perpetual inventory, the tanks are equipped with automatic gauges. The tanks have a vapor seal, completely sealing the tanks. This brings evaporation losses to a minimum.

Also for storage are two 16,000 gal. horizontal tanks for kerosine and U. S. Motor gasoline. Both have 2 in. conservation vents and are equipped for pump or gravity loading. Also included in the storage facilities are five 4000-gal. horizontal lubricating oil tanks. These were also installed for gravity and pump loading.

Trucks are loaded by meter. At the loading rack are four 2 in. meters and one 2.5-in. meter. All delivery trucks are equipped with meters and are checked at the close of every day's business to verify the accuracy of deliveries.

A written law for the drivers is that he insist on the customer reading the meter before and also after delivery. There is yet to be a single case of a complaint from customers concerning the amount of gasoline delivered.

Success of Kentucky Independent Petroleum Co. does not seem to be much different than any other successful jobber, except that the partners put selection of personnel ahead of everything else. Second, by staying up-to-date on equipment and selling methods, and third by their system of having an organization that fits in with the business, social and religious activities in the communities where they do business.

As the roving reporter rode around in a LaSalle belonging to one of these partners he pondered on what was the key to success in oil marketing. He thought of some of the oil-soaked, antique bulk plants he had seen. Some of the dirty stations and run down equipment being used by hard-up jobbers who were in business when Burke and Bakhaus were wearing three-cornered breeches.

The Kentucky Independent Oil Co. is putting personnel management ahead of all else and doing the same. They're leaving a lot of oldtimers by the wayside.

So, perhaps it's not the socks or the motto that has anything to do with their success after all.

The Table is Set No 'Dinner at Eight' But Silver is Free

Spur Distributing Co. of Nashville, Tenn., is giving away pieces of silverware (knives, forks, spoons) with the purchase of 4 gals. of gasoline. There is nothing new about that. Things have been given away at stations since the days when people waited for opening of new stations to get free oil with 5 gals. of gasoline.

But Spur is merchandising their silverware. Right out on the driveway is a table with a snow white linen table cloth, a complete set of dishes and, of course, silverware properly arranged.

Such a layout is so unusual that the average person with any curiosity stops to see what it is all about. A NPN representative did just that in Louisville.

He was told by the operator that since the "table was set" a constant stream of new faces, particularly women were coming in the station. Almost all of these ladies had their own ideas as to how the silverware should be placed by the side of plate. In fact, he said, there were frequent friendly arguments regarding the placement of the silverware.

Every day there is something new being developed by successful oil marketers who know that competition really begins in '40.

BUSINESS GOING UP DOWN ON THE FARM

Oldest distributor tells of increasing farm trend to Cities Service products

"We distribute Cities Service products to 113 dealers," says Mr. George Schumacher, general manager of the Iowa Oil Company, oldest Cities Service distributor. "Today scientific farming uses more and more machinery, which is good business for the petroleum industry—and particularly good business *for us.* Because Cities Service products, like Koolmotor and Cities Service Motor Oils, Koolmotor Gasolene and Trojan Lubricants give the reliable long-lasting service that farmers demand. Our repeat business proves that once a Cities Service customer—always a *satisfied* customer!"

It pays to sell Cities Service Products and CITIES SERVICE HELPS YOU DO THE SELLING!

All this support is yours when you sign with Cities Service

Exclusive Features—In addition to the products mentioned above, Cities Service offers such unique service features as the Cities Service Power Prover, Ride Prover, Heat Prover, and such specialties as Cisco Solvent and Cisco Pep—all business builders and real money makers.

Radio—The Cities Service Concert, radio's oldest program, thrills millions of listeners every Friday night. Lucille Manners, Frank Black, Ross Graham and Ford Bond help you sell Cities Service Products.

Magazines—Cities Service's 1940 theme "an extra year of youth for your car" reaches *additional* millions of readers in the Saturday Evening Post and other well-known publications.

Outdoors—They read while they ride—and Cities Service billboards and posters attract customers at the ideal time—right when they're on the highway.

Direct Mail—Cities Service's "Business Builder" is a year-round direct mail campaign that has everything—looks, hooks and selling appeal.

Cash in—Think what this complete selling program can mean to your business. Why not get all the details on this money-making merchandising? Wire, write or phone to the nearest office listed below.

CITIES SERVICE OIL COMPANIES

CITIES SERVICE OIL COMPANY— Chicago, New York, Cedar Rapids, Boston, St. Paul, Grand Forks, Syracuse, Kansas City, Ft. Worth, Oklahoma City, Milwaukee, Cleveland, Detroit, Harrisburg.

CITIES SERVICE OIL COMPANY, LTD.— Toronto, Canada

ARKANSAS FUEL OIL COMPANY— Shreveport, Little Rock, Jackson, Birmingham, Atlanta, Charlotte, Nashville, Richmond, Miami.

Portable Pump and Meter on Truck Speeds Up Deliveries

MORE time to solicit new business, greater accuracy in measurement of delivered products, elimination of spillage and objectionable fumes, cleaner appearance of tank truck and driver, and fewer sore muscles at the end of the day.

This sums up the important reasons why oil marketers, and particularly those serving the rural trade with a variety of products from fuel oil to gasoline, have added portable pumps and meters to their delivery tank trucks.

Use of this equipment is eliminating the industry-old practice of bucketing, by permitting products to be pumped direct from the tank truck into the customer's container, whether it is a 50 gal. drum in the rafters of a barn, a tractor in a field—50 to 100 ft. from the road, or just an ordinary tank on a WPA job; in the farm yard or 2 flights of stairs down into a basement.

The equipment includes a pump, direct driven by a small 4 cycle gasoline engine, and a meter equipped with air eliminator and strainer. Sometimes a self starter is used but usually the little engine is started with a rope, like an outboard motor. It is also possible to include a ticket printer as optional equipment on some units.

Assemblies of this kind, found most adaptable to the relatively small delivery truck—800 to 1500 gal. capacity—will provide 15 to 25 gal. per minute of measured flow—output depending on size of engine, piping and length of hose. Engines for these small units range in power rating from ⅝ to 1½ H.P. generally; piping is 1 to 1.5-in. and the corresponding diameter hose may range in length from 30 to 100 ft.

Among other features of these units is the flexibility with which they can be adapted from one truck to another. Designed to fit on the can rack, near the front or rear of the truck tank, these units are essentially portable and can be installed in a relatively short time—2 or 3 hours.

This feature has been found a particular advantage in the conversion of gasoline delivery units to fuel oil service during unexpected heavy demand. Last winter, for example, many marketers found it necessary to press every available piece of tank truck equipment into emergency service to meet the unusual demand for heating oils.

Lack of pumping facilities on the gasoline trucks was overcome by means of these individual power-driven pump and meter assemblies. The driver of one such truck, thus equipped, said he figured that in delivering 1600 gal. of furnace oil from a 1000-gal. truck during one day of sub zero weather, he had been saved from lifting approximately 11,000 lbs. and this did not include the weight of the buckets.

If this quantity of products had been measured out by buckets, it would have meant the filling of 320 five-gal. buckets and the possibility of an error in the counting.

On an actual test it was found unloading time was cut two-thirds with the power pumping, compared to bucketing. Other time spent in making the delivery remained about the same, so that the net saving was about 2 hours in an 8-hour day.

Several marketers using these units report the effective saving in time with power pumping is threatened by customers' requests for special service. In one case road construction contractors expected the marketer to make deliveries direct into the motorized construction equipment, eliminating rehandling from field tanks.

These small portable pumping units should not be confused with the larger units which are designed primarily to replace the power take-off on larger delivery equipment. Such units have larger engines, usually of 3 or more horsepower and will deliver upward of 50 g.p.m. through 100 ft. of 1.5-in. hose.

The smaller assemblies described here find their greatest use among operators of trucks not equipped with power take-offs. Where discharge speed is not a factor and where adaptability of eqnipment from one truck to another is important, their use in replacing the power take-off is practical.

A 1-H.P. gasoline engine, for example, consumes about 1 gal. of gasoline in every 4 hours of operation, whereas a truck power take-off will use about 1 gal. per hour of operation.

On actual test, a ⅝ HP unit used 1 qt. of fuel in pumping 2250 gal. of gasoline during a period of 2½ hrs. A 1 HP unit operating 5 hrs. pumped 7500 gal. and consumed 1 gal. of fuel.

It is not generally recommended that these pump and meter assemblies be changed several times a day from handling one product to a different one. Where several different products are carried on a single vehicle, such as gasoline and kerosine, it is common to use the power pump on the larger gallonage product and bucket the other, to avoid contamination.

With care in cleaning out the sys-

F. G. McKelvey, oil marketer of Muskegon, Mich., says he saves 2 hours a day, which he uses to solicit new business, by using power pumping, rather than bucketing to deliver gasoline, kerosine, fuel and tractor oil. He is shown here pumping direct into the fuel tank on a big "Cat". The gasoline engine-driven pump, equipped with a ticket printing meter is shown mounted just back of the cab of the four-compartment tank truck

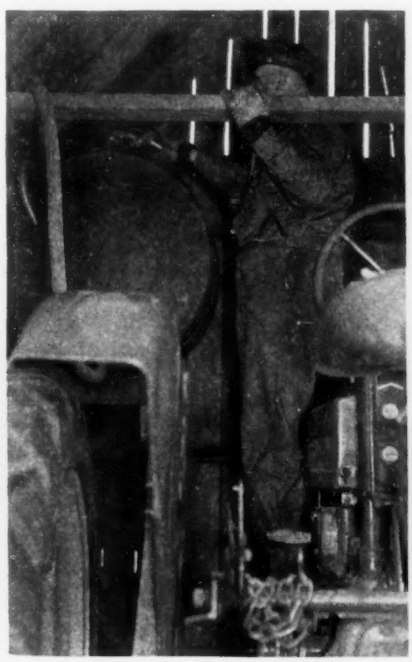
tem, some operators are finding it possible to change over the unit from one product to another without appreciable contamination. One such operation will be described later on in this article.

Where one of the power pumps is used on a tank truck in which most or all of the compartments carry a single product, the compartment faucets are manifolded together and connected by hose or pipe to the suction side of the pump. Pumping is continued from one compartment until the meter hand stops—by action of the air eliminator—and shows the compartment is empty.

Discharge rates have been found to vary slightly with the length of hose used, but the reduction does not exceed 20%. While the average length of hose is 50 ft., the greater flexibility offered by a longer hose has created increased popularity for 100 ft. lengths.

While in most cases the truck driver can watch the meter dial as he makes a delivery, this is not necessary where the customer wants the tank filled, as is usually the case. The driver can turn the meter dial back to zero, take note of the totalizing register, start the engine, take the hose nozzle up into a barn or down into a basement, fill the tank, and read the exact amount of the delivery when he returns to the truck.

At Berea, Ohio, the F & H Oil Co., under the operation of Frank M. Zacharias, has 2 of its 3 tank trucks equipped with 1 H.P. units. One truck—new in 1940—has a capacity of 1048 gals., five compartments—312, 310, 158, 158 and 107 gal. capacities. Other trucks



Truck auxiliary pumping units, powered with a gasoline engine and equipped with a meter, make deliveries into inaccessible places such as this possible. There is no need to watch the meter if the order is for a "fill". The meter tells how much was delivered.

You can Twist a GLOBE around to Face the Public!

"MOST OF THESE so-called *modern* pumps," said the operator of one of the biggest independent chains in the Middle West, "make us appear to be ashamed of the brand of gasoline we're selling. You can't read the brand name of the gasoline four feet away!

"That's why I use Cincinnati *Beacon* Globes. I can't twist the top of a pump around so that my brand name shows down the road, but I *can* turn a Cincinnati *Beacon* Globe to show at any angle.

"Another thing! By using globes you *standardize your glass*. Think that over! It's meant a lot of savings to me!"

Cincinnati Beacon Globes save for you in many *other* ways. Let us explain. Write for details and prices—today.

If you are planning to feature a new gasoline or change in brand name, we will help you—*free of charge*—to design new faces to interchange with those now on your globes.

The Cincinnati Advertising Products Co.,
3275 Beekman Street,
Cincinnati, Ohio

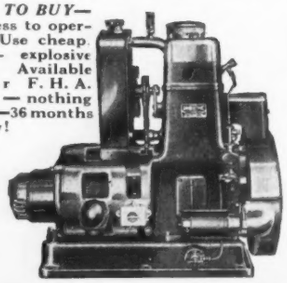
CINCINNATI Beacon GLOBES

"THE BEACON GUIDE TO YOUR SERVICE"

LOW COST *Light and Power for This Winter*

You'll need more light and power this winter. Have all you want without worry about the cost—get a modern, efficient WITTE Dieselectric Plant. These sturdy, compact plants give you electricity for only *ONE CENT a K.W.H.* —and you pay for only the current you produce and use.

EASY TO BUY—cost less to operate. Use cheap non - explosive fuel. Available under F. H. A. terms — nothing down—36 months to pay!



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Vertical or Horizontal. 2500 to 8000 Watts. Manual starting, Electric starting or Automatic control. $825 and up, f.o.b., K.C., Mo.

Write now giving your present monthly current cost, and we'll tell you how you can pay for a WITTE out of savings.

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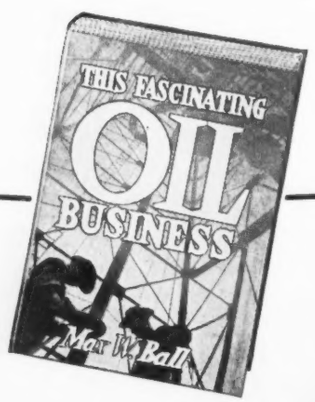


● "This Fascinating Oil Business" covers the story of oil from its geologic beginnings, through modern production, transportation, refining and marketing. Well illustrated with maps, charts and drawings, its 444 pages are an invaluable guide to the history, work, and problems of the oil industry. Price, $3.00 per copy.

— — — "Clip and Mail" — — —

NATIONAL PETROLEUM NEWS
Cleveland, Ohio

Send ... copy / copies of "This Fascinating OIL Business" by Max W. Ball. Enclosed is check for $3.00 per copy.

NAME .....

St.-Box ..... City-State .....

are 1000 gal.—equipped with pump assembly—and 600 gal.

Serving a rural area—average route covers about 70 miles per day—the two large trucks deliver about 1000 gals. per day. Kerosine and gasoline are the principal products in summer and fuel oil in the winter. As much as 1600 gal. was delivered with the largest truck and the power pump unit in a single day. These units use a 1-in. pump and a 1-in. meter and discharge 25 g.p.m.

As an example of the saving in time and labor with the power operated pump, as against former bucketing, one customer—a grocery store—has a 200 gal. tank down 2 flights of stairs in the basement. With buckets, carrying two 5-gal. containers, it required a total of 20 trips to fill this drum, or approximately half an hour. Now the full quantity can be delivered in less than 10 minutes.

At another point, fuel oil was pumped into a 55 gal. drum which was on a stand 8 ft. above the ground. This could be filled in less than 3 minutes with the pump and required about 15 minutes with buckets.

F. G. McKelvey, tank truck dealer at Muskegon, Mich., is shown in accompanying photograph delivering to a rural trade with a 900-gal., 5-compartment tank truck. This truck has an auxiliary pumping unit—¾ H.P. engine, with an output of 16 g.p.m.

The discharge hose, as shown, is 30 ft. but Mr. McKelvey says he is considering attaching a reel with 100 ft. of discharge hose for greater convenience in making deliveries.

He says all kinds of refined products are handled by this unit, including gasoline, kerosine, fuel oil and tractor fuel. "I am able to change pumping from one product to another" he says, "without leaving more than 1/10th of a gal. in the entire unit. This is accomplished by closing the air discharge hose on top of the air eliminator, disconnecting suction hose from truck tank faucet and then pumping through discharge hose the entire contents of the unit into a bucket or compartment of truck.

"It takes me 25 minutes to bucket out 100 gals. of refined products. With this unit I am able to do it in 7 minutes. The saving in time amounts to about 2 hours a day, which I spend now in soliciting new business.

"In addition to the above I have obtained other advantages. The power unit eliminates to a great extent the hard manual labor of bucketing. It eliminates error in counting the number of buckets emptied. My customers now express their preference in accepting deliveries through the use of this unit as against the old method and I have found it a valuable selling help in getting new business."

Insecticide Ingredient from Brazil

A potential source of pyrethrum flowers, used on a large scale in the U. S. in insecticides, is Brazil, according to a recent report by the American Commercial Attache, Rio de Janeiro. Present sources of pyrethrum flowers are Japan (50%) and Kenya Colony, Africa (40%). Imports of pyrethrum in 1939 totaled over 13,500,000 pounds. Brazil is said to be capable of growing the crop profitably and has been producing about 660,000 pounds annually, little of which has been exported.

One of two trucks the F. & H. Oil Co., Berea, Ohio, has equipped with an auxiliary pump and meter assembly for speeding deliveries into the tanks of rural customers. This unit has a 1 HP. gasoline engine and will deliver about 25 g.p.m. The copper tube shown connected to the rear tank dome is from the air eliminator on this unit, handles any sudden surge of fluid or vapor, returning it to the compartment. Bucketing of the products is difficult and hazardous when the ground is icy as shown here

SAE Approves Method For Testing Lubes At Zero Temperature

To establish an official method for estimating the viscosity of motor oil at zero, F., the Lubricants Division of the Society of Automotive Engineers has approved a method involving extrapolation on the A.S.T.M. Viscosity-Temperature charts (D341-39) from kinematic viscosities determined by the Tentative Method for Kinematic Viscosity. This method applies to transmission and rear axle lubricants also.

This development is an outgrowth laboratory and field test work several years ago on automotive engines, by both the automotive and oil industries, to determine effect of various factors on the torque required to start an engine at low temperatures.

It was found that the viscosity of the oil at temperature of the crankcase was one of the most important factors. While the results varied with different engines, the indication was that marked increases in viscosity made starting difficult if not impossible.

The method for estimating viscosities at zero is published as general information in the 1941 SAE Handbook, supplementing the SAE Lubricants Classification, and maximum tolerances in errors in estimating viscosities are given.

The classification of 10-W crankcase oil has had an accepted viscosity range of 5000 to 10,000 Saybolt seconds at Zero F, and 20-W a range of 10,000 to 40,000 seconds.

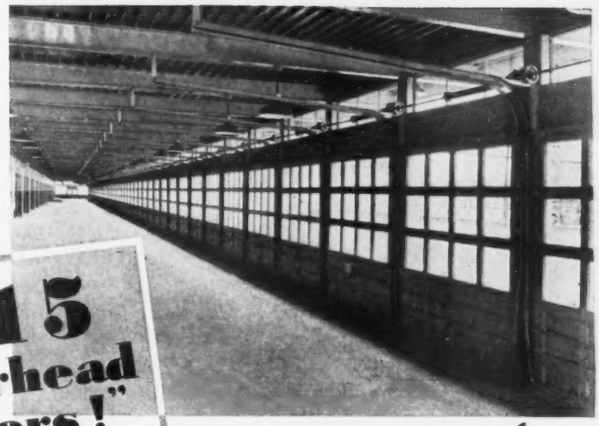
"Since there is at present no official method for estimating or determining viscosity at zero F., many commercial lubricants, meeting the original classification of 10,000 seconds at zero F., are either rejected or reported as being misbranded," the statement says.

To establish an official method and clear up the misunderstanding that exists at present, the method for estimating viscosity at zero F. was developed.

Transportation Management Is Subject of New Course

N. P. N. News Bureau

LOS ANGELES, Aug. 31.—Automotive transportation management will be the subject of a new course, beginning Sept. 17, at the University of California Extension Division, 813 South Hill Street, Los Angeles. Dr. Vernon D. Keeler, the instructor, will be assisted during the course by a number of engineers connected with California firms interested in automotive transportation, including: J. W. Sinclair, Union Oil Co.; W. H. Brown and P. H. Dunker, Edison Co.; L. C. Jones and C. T. Thomas, Gilmore Oil Co., and W. E. Templin, chairman of the Society of Automotive Engineers.



315 "Overhead Doors!" one Industrial Job!

MOTORISTS PATRONIZE THE *MODERN* SERVICE STATION WITH THE *"OVERHEAD DOOR"*

Backed by A NATION-WIDE SALES-INSTALLATION SERVICE!

The "OVERHEAD DOOR" TRADE MARK WITH THE MIRACLE WEDGE

Chosen for the new Kansas City Food Terminal—The "OVERHEAD DOOR" with the MIRACLE WEDGE, built at Hartford City, Indiana. Three hundred and fifteen doors . . . yet this multiple installation was a simple job for "OVERHEAD DOOR" engineers.

One door or many—outside or intercommunicating—manually or electrically operated—modern production and distribution demand The "OVERHEAD DOOR" in every type of factory and warehouse. Our local representative will make a complete survey without obligation. Phone him today.

OVERHEAD DOOR CORPORATION, Hartford City, Ind., U.S.A.

Do you do it THE HARD WAY?

There's a hard way and an easy way to make truck tank deliveries—and it doesn't take an expert to tell that the easy way is best. For there's little profit in slow, dangerous bucketing of fuel oil and other petroleum products.

A 1000-gallon truck tank contains 6600 pounds of oil or gas—more than three tons that your driver has to lift by hand in making bucket deliveries.

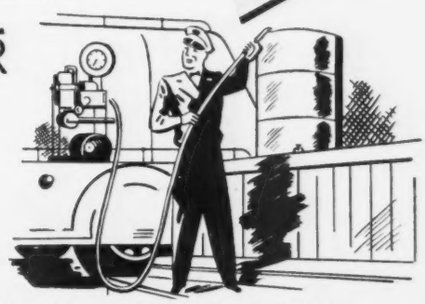
Why not increase your profits by installing the PUMP-N-METER? Give your driver more time to find new customers . . . and more energy to sell them!

And don't forget—you'll please both old and new customers with accurate metered delivery.

or THE PUMP -N- METER WAY?

PUMP N METER

is fast . . . accurate . . . safe. Self-contained and easily attached to any truck tank. Nozzle control. Thoroughly reliable. Powered by its own gasoline motor. Priced so low that it quickly pays for itself in time saved and increased number of sales. Get the facts! Ask your equipment jobber or write direct.



Cleveland Office—Endicott 2423; New York Stillwell 4-4053

THE PUMP & METER MFG. CO. 1723 EAST 39th ST. CLEVELAND, OHIO

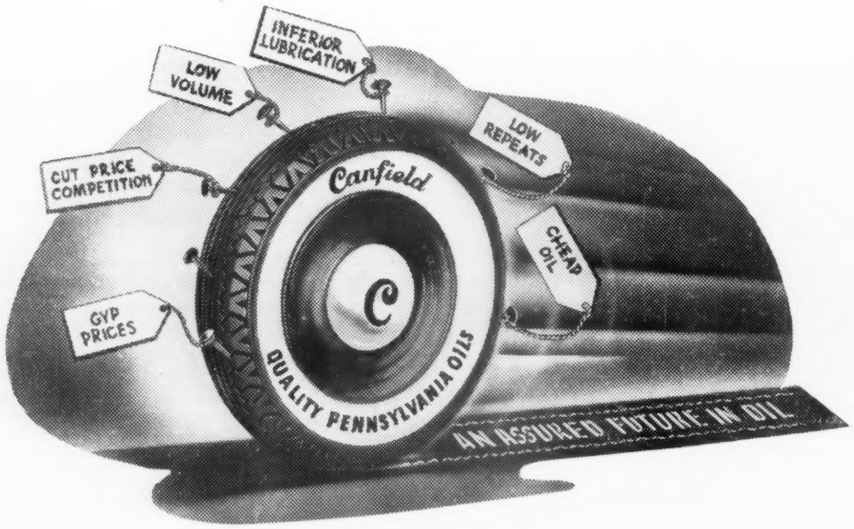
One Car for Every 5.5 Persons Listed in 95 Largest Cities

CLEVELAND—There is one passenger car for every 5.5 persons in the 95 cities of over 100,000 population in the U. S., according to compilation by The Ruben H. Donnelley Corp., published by Automobile Manufacturers Assn. in "Automobile Facts and Figures, 1940."

Miami, Fla., boasts more cars per person than any other large city in the U. S., passenger car registrations showing the population per car averaging 2.8. In New York City, one passenger car is registered for every 10 persons, the lowest car-population ratio of any U. S. city of over 100,000 population.

Following data show number of passenger cars and trucks registered in 95 cities and the population per passenger car:

Cities above 100,000 Population	Pass. Cars	Trucks	Pop. Per Pass Car
Akron, Ohio	61,184	6,339	4.2
Albany, N. Y.	27,537	5,452	4.7
Atlanta, Ga.	69,185	11,482	4.2
Baltimore, Md.	120,905	18,587	7.2
Birmingham, Ala.	41,637	6,920	4.6
Boston, Mass.	88,392	19,129	9.7
Bridgeport, Conn.	29,005	4,978	5.1
Buffalo, N. Y.	128,405	14,466	4.7
Cambridge, Mass.	15,442	4,067	7.6
Camden, N. J.	18,622	2,948	6.4
Canton, Ohio	27,041	3,108	4.4
Chattanooga, Tenn.	21,435	3,703	7.9
Chicago, Ill.	531,313	62,547	6.8
Cincinnati, Ohio	91,283	12,539	5.2
Cleveland, Ohio	203,846	23,076	4.6
Columbus, Ohio	83,164	12,050	3.6
Dallas, Texas	82,213	11,454	3.8
Dayton, Ohio	61,249	6,005	3.7
Denver, Colo.	91,051	11,131	3.5
Des Moines, Ia.	40,289	5,433	3.8
Detroit, Mich.	412,061	37,872	4.3
Duluth, Minn.	22,840	3,207	5.5
Elizabeth, N. J.	20,490	2,345	6.1
El Paso, Texas	17,477	2,822	5.7
Erie, Pa.	28,373	3,350	4.1
Evansville, Ind.	26,811	4,349	4.1
Fall River, Mass.	12,711	2,144	9.1
Flint, Mich.	45,213	3,526	3.7
Fort Wayne, Ind.	34,539	4,317	3.8
Fort Worth, Texas	46,096	7,095	4.2
Gary, Ind.	23,574	2,445	4.9
Grand Rapids, Mich.	53,421	6,143	3.5
Hartford, Conn.	35,307	6,109	4.8
Honolulu, T. H.	37,909	6,660	6.0
Houston, Texas	100,134	13,898	3.9
Indianapolis, Ind.	105,241	17,794	3.8
Jacksonville, Fla.	33,516	6,615	4.5
Jersey City, N. J.	38,209	5,911	8.9
Kansas City, Kan.	29,710	4,152	4.4
Kansas City, Mo.	84,646	12,742	4.7
Knoxville, Tenn.	21,199	3,481	6.2
Long Beach, Calif.	53,707	4,747	3.0
Los Angeles, Calif.	476,758	54,642	2.9
Louisville, Ky.	59,279	8,749	5.2
Lowell, Mass.	12,153	2,167	8.4
Lynn, Mass.	15,533	1,898	6.5
Memphis, Tenn.	42,310	6,857	6.8
Miami, Fla.	53,078	7,873	2.8
Milwaukee, Wis.	127,761	15,180	4.9
Minneapolis, Minn.	123,621	14,109	3.9
Nashville, Tenn.	34,672	5,490	4.5
Newark, N. J.	64,972	19,696	6.9
New Bedford, Mass.	15,362	2,463	7.3
New Haven, Conn.	29,388	6,405	5.5
New Orleans, La.	61,676	11,004	8.3
New York, N. Y.	762,647	118,093	10.0
Norfolk, Va.	20,474	3,657	6.3
Oakland, Calif.	91,037	9,577	3.4
Okla. City, Okla.	52,573	9,402	4.5
Omaha, Neb.	51,255	7,154	4.3
Paterson, N. J.	28,150	4,771	5.2
Peoria, Ill.	30,431	4,059	4.6



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PUNCTURE-PROOF!

THE MARKETER WHO STARTS on the road to success in the oil business with a genuine, top-quality Pennsylvania Motor Oil saves himself a heap of worry and trouble.

He is a lot more certain of competing profitably and substantially in the race for oil sales and profits . . . he can concentrate his energy on "selling" and not worry about his oil.

His progress is never halted by punctures or blowouts due to dissatisfied customers, loss of prestige, loss of repeat business, or lubricating failures.

He knows that when he selects a Canfield Quality Pennsylvania Oil to back up his sales effort he is actually getting a running start on cheap oil competition, because Quality Pennsylvania Oils lead in consumer acceptance . . . in repeats . . . in dollar volume . . . in lubricating value . . . and in building an assured future in oil.

Many marketers who have switched to Canfield Quality Pennsylvania Oils have tremendously increased their sales, profits and repeats. Ride the road to success with a real puncture-proof oil.

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PENNSYLVANIA
MOTOR OILS
100% PURE PENNSYLVANIA OIL

Philadelphia, Pa.	253,273	39,547	7.9
Pittsburgh, Pa..	108,819	19,200	6.4
Portland, Ore...	91,725	11,739	3.7
Providence, R. I.	57,443	8,850	4.2
Reading, Pa. ..	23,479	3,635	6.4
Richmond, Va..	38,100	8,351	4.9
Rochester, N. Y.	91,244	8,846	3.7
Salt Lake City, Utah	38,292	5,738	4.2
San Antonio, Texas	61,822	10,689	4.2
San Diego, Cal.	48,690	5,356	3.7
San Francisco, Calif.	153,755	23,282	5.0
Scranton, Pa. ..	19,904	4,519	6.8
Seattle, Wash...	105,537	12,755	3.5
Somerville, Mass.	12,024	2,548	8.3
South Bend, Ind.	27,698	3,759	3.8
Spokane, Wash.	32,740	5,767	4.1
Springfield, Mass.	30,901	3,957	5.0
St. Louis, Mo...	159,031	26,277	5.3
St. Paul, Minn..	73,224	9,644	4.2
Syracuse, N. Y..	48,271	5,997	4.6
Tacoma, Wish..	31,842	4,562	3.5
Tampa, Fla.	27,989	5,399	3.9
Toledo, Ohio ..	77,553	7,766	4.3
Trenton, N. J..	29,371	4,698	4.3
Tulsa, Okla.....	38,976	7,225	4.2
Utica, N. Y.....	19,548	3,019	5.2
Washington, D. C.	148,688	16,096	4.2
Waterbury, Conn.	18,466	2,808	5.8
Wichita, Kan...	33,975	5,446	3.4
Wilmington, Del.	24,714	3,938	4.5
Worcester, Mass.	30,321	4,054	6.4
Yonkers. N. Y..	23,841	2,594	6.4
Youngstown, O.	33,634	3,932	5.1
Total, 95 Cities.	7,292,402	1,012,377	5.5

Tennessee Taxes Take Terrific Tourist Toll

Down in Tennessee, where men are men and gasoline is sometimes two-bits per gal., the taxes, including state, federal and inspection fees, amount to 8.9c. This is the highest combination of these taxes in the country. A few points in other states, which also have a county or city tax, have a higher total.

That means that if the taxes were collected by means of nickel or penny slot devices attached to the steering wheel, every 8.43 miles or every 13.7 minutes, you would have to drop in a nickel. Or if it were a penny device, a penny every 2½ minutes. That is based on a car averaging 35 miles per hour and 15 miles to the gallon.

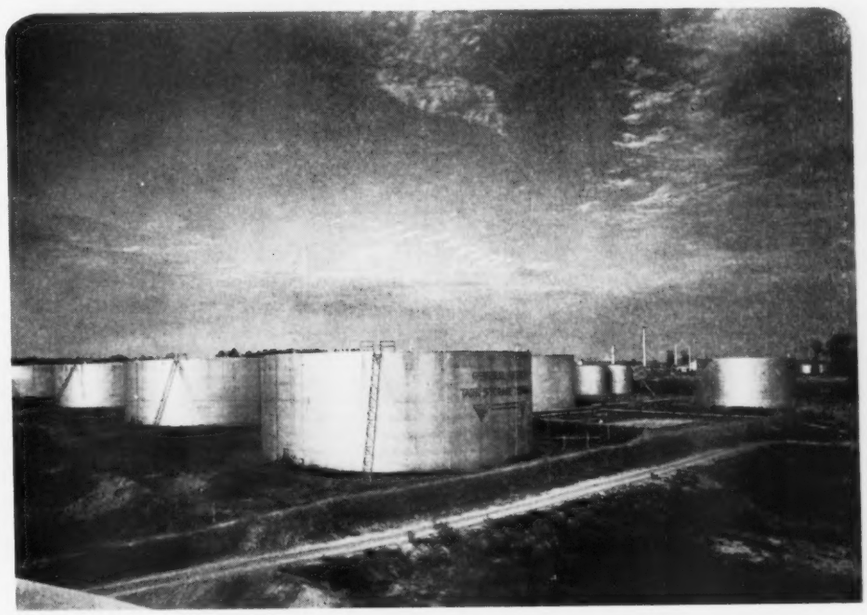
Yet the state of Tennessee is doing an excellent job in promoting tourist travel. Travel bureaus, Boards of Trade, and Convention Bureaus, are working with the oil companies to induce the Florida bound tourist to tarry in Tennessee to visit Norris Dam, the Great Smokies, Lookout Mountain and other scenic sites. In July, 128,520 visited the Great Smokies alone.

Meetings are frequently held with service station operators to educate them regarding the points of interest not only in their town but throughout the state as well. Attractive broadsides are regularly sent by the Nashville Convention and Tourist Bureau to 365 agencies, including oil companies.

But those interested in Tennessee's travel promotion are fighting a tough battle, according to Lew Collins, Nashville secretary of the Tennessee Petroleum Industries Committee. Mr. Collins points out that a recent questionnaire to 17,000 visitors in Tennessee resulted in 85% of the returns kicking on the high gasoline taxes of 7c per gal., plus federal and local inspection fees.

More Benzene in 1940

Benzene production for the first six months of 1940 was over 40% ahead of that for the same period in 1939, estimates of the Bureau of Mines show. The total of 62,086,000 gallons for 1940 compares with 43,567,000 gallons. The estimate represents crude, refined, and motor benzene and is based on coke production by by-product plants reporting recovery of this product.



Photograph by Robert Yarnall Richie

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Carteret, N. J. (Port of New York) **Galena Park, Texas** (Port of Houston)

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CHAMPLIN REFINING COMPANY

General Offices at Enid, Oklahoma—Gasoline Pipeline Terminals at Hutchinson, Kansas; Superior, Nebraska; and Rock Rapids, Iowa—Warehouses at Lincoln, Omaha, Grand Island and Superior, Nebraska; Mason City and Rock Rapids Iowa; and Denver, Colorado.

MARKETS

Gulf

NEW YORK, August 30.—Refiners' asking prices for refined products at Gulf were generally unchanged the past week, according to reports here and from the southwest. Sales of 14,000 bbls. No. 2 fuel for September 10 lifting at 3.50c and 800 tons of diesel fuel, ships' bunkers, at $1.50 for immediate loading were reported. Reports indicated there were a number of inquiries in the market for gasoline, kerosine, gas oils and No. 2 fuel.

One refiner reported withdrawing his quotations for gas oil, and 65 and 68 oct. gasolines. He said he was offering 72-74 oct. leaded at 4.125c and 80 oct. minimum research gasoline with maximum of 2 c.c. lead at 4.50c. Two other refiners reported quoting 5c for 80 oct. minimum research with maximum 2 c.c. lead, one of them saying he also was quoting 4.75c for 80 oct. minimum research with more than 2 c.c. lead.

Market for Bunker "C" continued firm at 0.80 to $0.90, ships' bunkers, and 0.85 to $0.90 in cargo lots, according to reports.

Mid-Western

CHICAGO, Aug. 31.—Refiners in Chicago reported the 1c reduction in Minnesota's gasoline tax, effective Sept. 1, and Labor Day buying combined to boost gasoline demand in the middle west the past week. Two refiners said they had shipped "several trainloads to Northwest territory" because jobbers had allowed their storage to run low because of the tax cut in Minnesota.

Group 3 gasoline quotations reported by refiners ranged from 4.625 to 5.25c for 72-74 oct., 4.25 to 4.75c for 63-66 oct., and 3.875 to 4.25c for 60 oct. & below. Three tank car marketers quoted 4c and three quoted 4.125c for 72-74 oct.; one quoted 3.50c and two 3.625c for 63-66 oct.; two quoted 3.375c and one 3.50c for 60 oct. & below, FOB Group 3.

Call for burner and industrial fuels continued "steady," according to reports. Several sellers said burner fuels were "tight." Quotations for all grades were reported generally unchanged.

The following open spot sales were reported by four tank car marketers during the week: 19 cars of 72-74 oct., 16 cars at 4c, and 3 cars at 4.125c; 1 car of 70 oct. gasoline at 3.875c; 2 cars of 63-66 oct. at 3.50c; 3 cars of 60 oct. & below, 1 car at 3.50c, FOB Group 3, and 2 cars at 5.375c, FOB Chicago.

Mid-Continent

TULSA, Aug. 31.—Reductions in lube prices ranging from 0.5 to 1c a gal. highlighted Mid-Continent markets the past week. Three refiners reported reducing their quotations in those amounts. Quotations reported for 150-160 vis. D bright stock, 0-10 pour, ranged from 13.50 to 16c, down 0.5c; 10-25 pour, 13 to 15.50c, down 0.5c; and 25-40 pour, 12.50 to 15c, down 1c. Prices for viscous neutrals also were down 0.5 to 1c, according to reports.

Good movement of gasoline was reported by most refiners, and stocks generally were said to be in good shape. Several refiners said they were behind on orders and one reported turning down an inquiry for 25 cars for immediate shipment.

An Oklahoma refiner reported selling 10 cars of Ethyl and 35 cars of 72-74 oct. gasoline to another refiner for delivery over first half September; prices were not disclosed. Same refiner also reported selling one car of 72-74 oct. at 5.125c. Quotations reported by other Oklahoma refiners for 72-74 ranged from 4.625 to 5.25c although one said he was still quoting "4 to 4.625c," the 4c price being for restricted shipment. This refiner said he was making some "sales of 72-74 at 4c for shipment to restricted competitive areas."

Sales of Grade 26-70 natural gasoline were in reduced volume from previous week; most sellers said they were "cleaned up" for the month. Sales through the week were reported at 1.50c, F.O.B. Breckenridge, and 1.75c, F.O.B. Group 3. Sales of 4 cars were reported at 2c, F.O.B. Oklahoma plant for local delivery.

Takings of heavy fuels by railroads were reported at contract maximums, with some inquiries for open spot delivery. Inquiries for burning oils and kerosine were reported in good volume in most Mid-Continent districts.

Atlantic Coast

NEW YORK, August 30.—Low quotations for some grades of gasoline were down 0.25 to 0.3c at Boston, Providence and Portland the past week while kerosine was quoted 0.125 to 0.375c lower at several points along the Southern seaboard.

Low quotations for 72-74 oct. were down 0.3c to 5.70c at Portland and 5.60c at Providence. At Boston, 68-70 oct. was offered 0.25c lower at 5.50c.

A southern seaboard supplier reported reducing his kerosine quotations 0.125 to 5.125c at Savannah, Jacvksonville, Miami, Tampa and Pensacola, and 0.375c to 4.75c at Mobile. Quotations reported by other suppliers generally ranged up to 5.50c except at Mobile where they ranged up to 5.375c.

Pennsylvania

CLEVELAND, Aug. 31.—Aside from higher prices reported by some refiners for white crude scale wax, quotations for refined products in Western Penna. were unchanged the week ended Aug. 31. Fuel oil and gasoline were said to be "scarce," with demand for kerosine "improving." Neutral oils were in good demand, according to reports. Low quotations reported for 122-124 A.m.p. crude scale wax were up 0.25c to 2.25c, New York, when a refiner who had been quoting 2c said he was sold up for two months and had withdrawn from the open spot market. Two refiners reported quoting 2.25c and 2.50c, New York, for this grade. Advance of 0.1c in his quotation for 124-126 A.m.p. by another refiner the past week brought low quotations reported for this grade up to 2.10c, New York. Quotations reported by other refiners ranged up to 2.50c.

California

LOS ANGELES, Aug. 31.—Off-shore shipments from Pacific Coast ports the past week were reported to have been exclusively against contracts made prior to Aug. 1. No spot sales were reported.

Suppliers appeared willing to accept lower prices than last week on practically all products, with the exception of bunker oils. Quotations on Bunker C fuel oil, in cargo lots, were said to be about 3c higher per bbl. than earlier in the month, the present range being $0.63 to $0.90 per bbl.

In the domestic market, rack prices reported for gasoline at independent plants in the Basin area ranged from 4.25 to 5c per gal. for third grade brands, 5.50 to 6c for leaded gasoline, and 6.50 to 7c for Ethyl. However, the proportion of gasoline sold at the lower figures was believed to be much larger than before.

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy, time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in con unction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test; and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

Summary of Daily Gasoline Prices (Aug. 27 to Sept. 3)

U. S. Motor, (ASTM octane)	Latest Prices Tues. Sept. 3	Aug. 27	Aug. 28	Aug. 29	Aug. 30
72-74 octane:					
Oklahoma	(m) 4.625–5.25	(o) 4.625–5.25	(o) 4.625–5.25	(o) 4.625–5.25	(m) 4.625–5.25
Mid-Western (Group 3 basis)	4.625– 5.25	4.625– 5.25	4.625– 5.25	4.625– 5.25	4.625– 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.875 (2)	4.875 (2)	4.875 (2)	4.875 (2)	4.875 (2)
63-66 octane:					
Oklahoma	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75
Mid-Western (Group 3 basis)	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.00 – 4.625	4.00 – 4.625	4.00 – 4.625	4.00 – 4.625	4.00 – 4.625
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.50 (2)	4.50 (2)	4.50 (2)	4.50 (2)	4.50 (2)
60 octane & below:					
Oklahoma	3.875– 4.25	3.875– 4.25	3.875– 4.25	3.875– 4.25	3.875– 4.25
Mid-Western (Group 3 basis)	3.875– 4.25	3.875– 4.25	3.875– 4.25	3.875– 4.25	3.875– 4.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	3.50 – 4.00	3.50 – 4.00	3.50 – 4.00	3.50 – 4.00	3.50 – 4.00
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	3.875 (2)	3.875 (2)	3.875 (2)	3.875 (2)	3.875 (2)
Motor Gasoline, 72-74 octane (ASTM):					
New York harbor	5.25 – 6.50	5.25 – 6.50	5.25 – 6.50	5.25 – 6.50	5.25 – 6.50
Philadelphia district	5.50 – 7.00	5.50 – 7.00	5.50 – 7.00	5.50 – 7.00	5.50 – 7.00
Baltimore district	5.50 – 7.75	5.50 – 7.75	5.50 – 7.75	5.50 – 7.75	5.50 – 7.75
Motor Gasoline:					
74-76 Octane: (L-3)					
Bradford-Warren (Western Penna.)	6.00	6.00	6.00	6.00	6.00
Other Districts (Western Penna.)	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
72-73 Octane: (L-3)					
Bradford-Warren (Western Penna.)	5.75 (2)	5.75 (2)	5.75 (2)	5.75 (2)	5.75 (2)
Other Districts (Western Penna.)	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00

REFINERY PRICES

Gasoline—U. S. Motor (ASTM Octane) except where otherwise specified

Prices Effective	Sept. 3	Aug. 26
OKLAHOMA		
72-74 oct.	(m) 4.625–5.25	(m) 4.625–5.25
63-66 oct.	4.25 – 4.75	4.25 – 4.75
60 oct. & below	3.875– 4.25	3.875– 4.25
60-62 400 e.p.	4.00 (2)	4.00 (2)
MID-WESTERN		
72-74 oct.	4.625– 5.25	4.625– 5.25
63-66 oct.	4.25 – 4.75	4.25 – 4.75
60 oct. & below	3.875– 4.25	3.875– 4.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
72-74 oct.	4.75 – 4.875	4.75 – 4.875
63-66 oct.	4.00 – 4.625	4.00 – 4.625
60 oct. & below	3.50 – 4.00	3.50 – 4.00
60-62, 400 e.p.	4.00	4.00 (2)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
72-74 oct.	4.875 (2)	4.875 (2)
63-66 oct.	4.50 (2)	4.50 (2)
60 oct. & below	3.875 (2)	3.875 (2)
CENT. W. TEX. (Prices to truck transports)		
72-74 oct. (L-3)	4.75 (1)	4.75 (1)
67-69 oct. (L-3)	4.125 (1)	4.125 (1)
62 oct. & below (L-3)	3.50 (1)	3.75 (1)
KANSAS (For Kansas destinations only)		
72-74 oct.	4.875– 5.125	4.875– 5.125
63-66 oct.	4.50 – 4.75	4.50 – 4.75
60 oct. & below	4.125– 4.375	4.125– 4.375

Prices Effective	Sept. 3	Aug. 26
ARK. (FOB Ark. plant of one refiner, for shipment to Ark. & La.)		
72-74 oct.	4.75	4.75
70-72 oct.	4.625	4.625
60 oct. & below	4.25	4.25
WESTERN PENNA. (Motor gasoline.)		
Bradford-Warren:		
74-76 oct. (L-3)	6.00	6.00
72-73 oct. (L-3)	5.75 (2)	5.75 (2)
Naphtha		
Untreated naphtha	.....	.....
Stoddard Solvent	.....	.....
Other districts:		
74-76 oct. (L-3)	5.75 – 6.00	5.75 – 6.00
72-73 oct. (L-3)	5.75 – 6.00	5.75 (2)
Naphtha		
Untreated naphtha	5.50 – 5.75	5.50
Stoddard Solvent	5.75 – 6.00	5.75 – 6.00
CENTRAL MICHIGAN (f)		
U.S. Motor: (Oct. L-3)		
72-74 oct.	6.25 – 7.00	6.25 – 7.00
67-69 oct.	5.50 – 6.25	5.50 – 6.25
Str.-Run Gasoline	(g) 4.25–5.00	(g) 4.25–5.00
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	7.125	7.125
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	5.50 – 8.00	5.50 – 8.00
54-58 grav., for outside state shipment	5.00 – 6.50	5.00 – 6.50
54-58 grav., for instate shipment	4.25 – 6.25	4.25 – 6.25

Kerosine, Gas & Fuel Oils

Prices Effective	Sept. 3	Aug. 26
OKLAHOMA		
41-43 grav. w.w.	3.875– 4.25	3.875– 4.25
42-44 grav., w.w.	4.00 – 4.625	4.00 – 4.625
Range Oil	3.50 – 3.875	3.50 – 3.875
No. 1 P.W.	3.375– 3.75	3.375– 3.75
No. 1 straw	3.25–3.50 (2)	3.25–3.50 (2)
No. 2 straw	3.25 – 3.625	3.25 – 3.625
No. 2 dark	3.375 (1)	3.375 (1)
U.G.I. gas oil	3.25 (1)	3.25 (1)
No. 3 fuel	3.125– 3.375	3.125– 3.375
No. 6 fuel	$0.55 (2)	$0.55 (2)
14-16 fuel	$0.85 (1)	$0.85 (1)
MID-WESTERN		
41-43 grav. w.w.	3.875– 4.25	3.875– 4.25
42-44 grav. w.w.	4.00 – 4.625	4.00 – 4.625
Range oil	3.50 – 3.875	3.50 – 3.875
No. 1 p.w.	3.375– 3.75	3.375– 3.75
No. 1 straw	.....	.....
No. 2 straw	3.25 – 3.50	3.25 – 3.50
No. 3	3.125– 3.375	3.125– 3.375
No. 5	$0.75 (1)	$0.75 (1)
No. 6	$0.50–$0.55 (2)	$0.50–$0.55 (2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	3.375–3.875	3.375–3.875 (2)
No. 1 P.W.	3.875 (2)	3.875 (2)
KANSAS (For Kansas destinations only)		
41-43 gravity w.w.	4.25 (1)	4.25 (1)
42-44 gravity w.w.	4.125– 4.375	4.125– 4.375
No. 1 p.w.	3.625– 3.875	3.625– 3.875
No. 6 fuel	$0.60-$0.625 (2)	$0.60-$0.625 (2)

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan; shipments may originate at plants outside Central group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (i) Quotations. (j) Sale. (k) Sales. (m) One refiner reported quoting "4.00 to 4.625" in some mid-western areas to meet competition. (n) One refiner reported quoting "4.00 to 4.625" for 72-74 oct. and "3.25 to 3.875" for 60 oct. & below, the lower prices of these two ranges for sale to 5 mid-western states only. (o) Two refiners reported quoting "4.00 to 4.625" for 72-74 oct.; the lower prices applying only to shipments into restricted competitive areas. (p) One N. Texas refiner quotes following prices for shipment to "8 counties immediately surrounding" his Wichita Falls refinery: U. S. Motor 72-74 oct. 4.75, 63-66 Oct. 4.00, 60 Oct. & below 3.50, 41-43 kerosine 3.375, No. 1 p.w. fuel 3.875. (q) A supplier quoting 5.50 at these points, said he was also offering "76 oct. (CFR), 80 oct. minimum (Research)" at 5.75

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	Sept. 3	Aug. 26
ARK. (F.o.b. Ark. plant of one refiner for shipment to Ark. and La.)		
41-43 grav. w.w.	4.25	4.25
No. 1	3.625	3.625
No. 2	3.375	3.375
28-32 zero fuel	3.25	3.25
Tractor Fuel	(h)4.25	(h)4.25
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	5.00 – 5.125	5.00 – 5.125
46 grav. w.w.	5.125 (1)	5.125 (1)
36-40 gravity	5.00	5.00
Other districts:		
45 grav. w.w.	4.75 – 5.00	4.75 – 5.00
46 grav. w.w.	4.875 (1)	4.875 (1)
47 grav. w.w.	4.875– 5.125	4.875– 5.125
36-40 gravity	(l) 4.00 –4.125	(l)4.00 –4.125
CENTRAL MICHIGAN (f)		
47-49 gravity w.w.	4.50 – 5.00	4.50 – 5.00
P.W. Distillate	4.25 – 4.50	4.25 – 4.50
No. 3 gas oil, Str.	4.00 – 4.25	4.00 – 4.25
U.G.I. gas oil	3.25 – 4.00	3.25 – 3.75
Fuel Oils (Vis. at 100):		
500-700 Vis.	2.50–3.00 (2)	2.50–3.00 (2)
300-500 Vis.	2.50–3.25 (2)	2.50–3.25 (2)
100-300 Vis.	3.25–3.50 (1)	3.25–3.50(1)
CALIFORNIA		
40-43 grav. w.w.	4.50 – 6.00	4.50 – 6.00
San Joaquin Valley:		
Heavy fuel	$0.45 –$0.75	$0.45 –$0.75
Light fuel	$0.55 –$0.85	$0.55 –$0.85
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	3.00 – 5.00	3.00 – 5.00
Los Angeles:		
Heavy fuel	$0.45 –$0.70	$0.45 –$0.60
Light fuel	$0.55 –$0.80	$0.45 –$0.70
Diesel fuel	3.00 – 4.00	3.00 – 4.00
Stove dist.	2.75 – 4.00	2.75 – 4.00
San Francisco:		
Heavy fuel	$0.80	$0.80
Light fuel	$0.90	$0.90
Diesel fuel	4.50	4.50
Stove dist.	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100

Lubricating Oils

WESTERN PENNA.

Viscous Neutrals — No. 3 col. Vis. at 70° F.

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	24.50 (1)	24.50 (1)
10 p.t.	23.50 (1)	23.50 (1)
15 p.t.	22.50 (1)	22.50 (1)
25 p.t.	21.00 –22.00	21.00 –22.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	22.50 (1)	22.50 (1)
10 p.t.	21.50 (1)	21.50 (1)
15 p.t.	20.50 (1)	20.50 (1)
25 p.t.	19.00	19.00
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	14.50 (1)	14.50 (1)
15 p.t.	13.50 (1)	13.50 (1)
25 p.t.	12.00 –13.00	12.00 –13.00
600 S.R. filterable	8.00	8.00
650 S.R.	9.00 –10.00	9.00 –10.00
600 fl.	10.00 –11.00	10.00 –11.00
630 fl.	12.00 –13.00	12.00 –13.00

MID-CONTINENT (F.o.b. Tulsa)

Neutral Oils Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis. Color		
60-85—No. 2	5.25 – 5.75	5.25 – 5.75
86-110—No. 2	5.25 – 6.25	5.25 – 6.25
150—No. 3	8.00 –10.25	8.00 –10.25
180—No. 3	8.50 –10.50	8.50 –10.50
200—No. 3	8.50 –11.00	8.50 –11.00
250—No. 3	10.00 –12.00	10.00 –12.00
280—No. 3	10.50 –13.75	10.50 –13.75
300—No. 3	11.50 –14.25	11.50 –14.25

Lubricating Oils (Cont'd)

Prices Effective	Sept. 3	Aug. 26
Red Oils:		
180—No. 5	8.50–9.00 (2)	8.50–9.00 (2)
200—No. 5	8.50–10.00 (2)	8.50–10.00 (2)
280—No. 5	11.50–12.00 (2)	11.50–12.00 (2)
300—No. 5	11.00 –12.00	11.00 –12.00

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stocks:

200 Vis. at D. 210°	18.00 (1)	18.00 (1)
150-160 Vis. at 210° D:		
0 to 10 p.p.	13.50 –16.00	13.50 –16.00
10 to 25 p.p.	13.00 –15.50	13.00 –15.50
25 to 40 p.p.	12.50–15.00 (2)	12.50–15.00 (2)
150-160 vis. at 210° E.	12.50 –15.00	13.00 –15.00
120 Vis. at 210° D:		
0 to 10 p.p.	13.50 –15.25	13.50 –15.25
25 to 40 p.p.	14.375 (1)	14.375 (1)
600 S.R. Dark Green	7.00 (2)	7.00 (2)
600 S.R. Olive Green	8.00 – 9.50	8.00 – 9.50
631 S.R.	12.00 (1)	12.00 (1)
Black Oil	4.00–5.50 (2)	4.00 –5.50 (2)

SOUTH TEXAS Neutral Oils

Pale Oils: (*Vis. at 100°F*)

Vis. Color		
100 No. 1½-2½	5.25 – 5.75	5.25 – 5.75
200 No. 2-3	7.25 – 7.75	7.25 – 7.75
300 No. 2-3	7.75 – 8.25	7.75 – 8.25
500 No. 2½-3½	8.50 – 9.00	8.50 – 9.00
750 No. 3-4	8.75 – 9.25	8.75 – 9.25
1200 No. 3-4	8.875– 9.375	8.875– 9.375
2000 No. 4	9.00 – 9.50	9.00 – 9.50

Red Oils:

200 No. 5-6	7.25 – 7.75	7.25 – 7.75
300 No. 5-6	7.75 – 8.25	7.75 – 8.25
500 No. 5-6	8.50 – 9.00	8.50 – 9.00
750 No. 5-6	8.75 – 9.25	8.75 – 9.25
1200 No. 5-6	8.875– 9.375	8.875– 9.375
2000 No. 5-6	9.00 – 9.50	9.00 – 9.50

CHICAGO (From Mid-Continent p.l. crude)

Neutral Oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils

Vis. Color		
60-85—No. 2	7.25	7.25
86-110—No. 2	7.25	7.25
150—No. 3	8.50	8.50
180—No. 3	9.50	9.50
200—No. 3	10.00	10.00
250—No. 3	11.00	11.00
Red Oils:		
180—No. 5	9.50	9.50
200—No. 5	9.50	9.50
250—No. 5	11.00	11.00
280—No. 5	12.00	12.00
300—No. 5	12.00	12.00

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)

140	8.75	8.75
160	9.50	9.50
200	10.50	10.50
Bright stocks, 160 vis. at 210, No. 8 color:		
0 to 10 p.p.	15.50	15.50
15 to 25 p.p.	14.50	14.50
30 to 40 p.p.	13.95	13.95
E filtered Cyl. Stock	12.50	12.50

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	(i) 1.75 –2.00	(k)1.75
FOB BRECKENRIDGE		
Grade 26-70	(i)1.50	(k)1.50

CALIFORNIA (FOB plants in Los Angeles basin)

75-85, 350-375 e.p. for blending	4.75 – 5.00	4.75 – 5.00

Naphtha and Solvent

Prices Effective	Sept. 3	Aug. 26
(FOB Group 3)		
Stoddard solvent	5.875	5.875
Cleaners' naphtha	6.375	6.375
V. M. & P. naphtha	6.375	6.375
Mineral spirits	5.375	5.375
Rubber solvent	6.375	6.375
Lacquer diluent	6.625– 7.375	6.625– 7.375
Benzol Diluent	7.875– 8.375	7.875– 8.375

Wax

White Crude Scale:

WESTERN PENNA. (Bbls., C.L., N. Y.)		
122-124 A.m.p.	2.25 –2.50 (2)	2.00
124-126 A.m.p.	2.10 – 2.50	2.00 – 2.10
OKLAHOMA (Bbls. or burlap bags, C.L.)		
124-126 A.m.p.	2.50 (1)	2.25–2.50 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are EMP (ASTM) methods; add 3° F. to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.60	5.60
125-127	5.60	5.60
127-129	5.85	5.85
130-132	6.15	6.15
132-134	6.40	6.40
135-137	7.15	7.15

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	5.125– 6.125	5.125– 6.125
Lily White	4.375– 5.125	4.375– 5.125
Cream White	3.375– 4.125	3.375– 4.125
Light Amber	2.625– 3.00	2.625– 3.00
Amber	2.375– 2.875	2.375– 2.875
Red	2.125– 2.625	2.125– 2.625

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline-Kerosine		Distillate-Gas Oil-Fuel Oil	
	Cents per Cwt.	Cents per gal. 6.6 lbs.	Cents per Cwt.	Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	49	3.231	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Gd. Rapids, Mich.	61	4.026	50	3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Min'ap'lis-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil. Combination rate of 32c per cwt. at 7.4, Group 3 to Chicago, plus 9c per cwt. at 6.6, Chicago to South Bend, total of 2.962c per gal., applies to petroleum fuel oil distillate not suitable for illuminating purposes.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan; shipments may originate at plants outside Central group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (i) Quotations. (j) Sale. (k) Sales. (l) Pittsburgh district prices excluded.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators, FOB their terminals)

Prices Effective Sept. 3

MOTOR GASOLINE (ASTM Octane)

District:	72-74 Oct.	68-70 Oct.	65-66 Oct.	60-64 Oct.	KEROSINE and /or NO. 1 FUEL
N. Y. Harb.	5.25 – 6.50	5.25 – 5.75	5.25 – 6.10	6.00(2)	4.80
N. Y. Harb., barges	5.00 – 6.50	5.00 – 5.50	5.00 – 6.00	5.75–6.00(2)	4.70
Albany	5.90	.....	.....	.....	4.90
Philadelphia	5.50 – 7.00	5.50 – 6.75	6.00(1)	5.75 – 6.75	5.00 – 5.50
Baltimore	5.50 – 7.75	5.50 – 6.50	6.25(1)	6.00 – 6.50	4.75 – 5.00
Norfolk	6.50 – 7.75	6.25–6.50(2)	6.25(1)	6.00–6.25(2)	4.75 – 5.00
Wilm'ton	6.50 – 7.55	6.25 – 6.50	6.25(1)	6.00 – 6.50	4.75 – 5.25
Char'ston	6.50 – 7.55	7.00(1)	6.25(1)	6.00 – 6.75	4.75 – 5.00
Savannah	6.25 – 6.75	6.125– 7.00	.....	5.75–6.00(2)	5.125– 5.50
Jacksonville	6.25 – 6.75	6.125– 6.25	.....	5.375– 6.25	5.125– 5.50
Miami	6.25–6.75(2)	6.125(1)	.....	5.50–6.25(2)	5.125–5.50(2)
Tampa	6.25 – 6.75	6.00–6.125(2)	.....	5.375–6.25(2)	5.125– 5.50
Pensacola	6.50–6.75(1)	.....	.....	6.00–6.25(1)	5.125–5.25(1)
Mobile	5.75 – 6.75	5.625(1)	.....	5.00 – 6.25	4.75 – 5.375
Portland	5.70 – 6.00	6.20(1)	.....	.....	5.00
Boston	5.50 – 6.00	5.50(1)	5.50 – 5.75	5.75(2)	4.90
Providence	5.60 – 6.50	.....	5.65(2)	5.65 – 6.00	4.90

FUEL OILS

	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	4.10	4.10	$1.45 –$1.70	$1.15 –$1.25
N. Y. Harb., barges	3.875– 4.00	3.875– 4.00	.....	.....
Albany	4.20(2)	4.20(1)	$1.85(1)	$1.45(1)
Philadelphia	4.25 – 5.00	4.25 – 5.00	$1.37 –$1.55	$1.15 –$1.25
Baltimore	4.00 – 4.25	4.00 – 4.25	$1.37(1)	$1.15 –$1.25
Norfolk	4.00 – 4.50	4.00(1)	.....	$1.25(2)
Wilmington	4.00 – 4.25	.....	.....	.....
Charleston	4.00–4.25(2)	.....	.....	$1.20(2)
Savannah	.....	.....	.....	$1.20(1)
Jacksonville	4.75(1)	4.75(1)	.....	$1.20(1)
Tampa	4.75(1)	.....	.....	$1.15(1)
Portland	4.30	4.30	$1.85(1)	$1.35 –$1.45
Boston	4.20	4.20	$1.55–$1.65(2)	$1.25
Providence	4.20	4.20	$1.50 –$1.65	$1.25

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House 28-34	Gas Oil Gravity
N. Y. harbor	$1.15–$1.25	$1.70	4.10	4.20	
Albany	$1.45(1)	$1.80	4.20	.....	
Philadelphia	$1.15 –$1.25	$1.70 –$1.95	.....	.....	
Baltimore	$1.15 –$1.25	$1.70	4.00	4.00	
Norfolk	$1.25	$1.68 –$1.70	4.00	4.00	
Charleston	$1.20	$1.68 –$1.70	4.00	4.00	
Savannah	$1.20(1)	$1.785–$1.995	.....	.....	
Jacksonville	$1.20	$1.785–$1.995	.....	.....	
Tampa	$1.15	$1.785–$1.995	.....	.....	
Portland	$1.35 –$1.45	$1.80	4.30	4.40	
Boston	$1.25	$1.70	4.20	4.30	
Providence	$1.25	$1.70	4.20	4.30	

New York Export Lubes

(Penna. Products in bbls. FAS New York)

Prices Effective	Sept. 3	Aug. 26
Bright stock:		
Light, 25 p.t.	19.00–20.50(2)	19.00–20.50(2)
Neutral oil:		
200 3 color, 25 p.t.	27.00(1)	27.00(1)
150 3 color, 25 p.t.	25.00–25.50(2)	25.00–25.50(2)
600 s.r., unfilt.	15.50–16.50(2)	15.50–16.50(2)
650 s.r., unfilt.	16.50–18.00(2)	16.50–18.00(2)
600 fl. s.r.	17.50–19.00(2)	17.50–19.00(2)
630 fl., s.r.	20.00–21.00(2)	20.00–21.00(2)

Wax

(A.S.T.M. Tests. Melting points, however, are A.M.P., 3° higher than E.M.P. Export prices, FAS, c.l. Domestic prices, FOB, refr'ies., in bags, c.l., with 0.2c discount allowed for shipment in bulk, except where noted. Sale solid; fully refined slabs in bags)

Prices Effective Sept. 3

	New Orleans Export	N. Y. Domestic	N. Y. Export
Crude Scale:			
124-6 Yellow	2.50(1)	.....	2.50(1)
122-4 White	.....	2.10–2.25(2)	2.10–2.50
124-6 White	2.50(2)	2.10–2.25	2.10–2.50
Fully Refined:			
123-5	.....	5.60	5.60(2)
125-7	5.60(1)	5.60	5.60
128-30	6.15(1)	5.60–5.70(i)	5.60
130-2	6.15(1)	5.85(i)	5.85
133-5	6.40(1)	6.15(i)	6.15
135-7	7.15(1)	6.40(i)	6.40
108-11 White Match	.....	.....	3.00(1&j)

Naphtha

Prices Effective Sept. 3	V.M.&P. Naphtha	Mineral Spirits
Baltimore	9.50	8.00
New York Harbor	8.80 – 9.50	8.20 – 8.50
Philadelphia district	10.00	8.00 – 9.00
Boston	9.50	9.25 – 9.50
Providence	9.50	9.00 – 9.50
†Ohio points, delivered	8.75	*8.25

*This is on rubber solvent.

†Ohio prices are those of S. O. Ohio. Its prices for D.C. naphtha, special Varnolene, Varnolene and Sohio Solvent are same as for V.M.&P.

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	Sept. 3	Aug. 26
375 e.p. blend, 70 oct.	4.75 – 5.875	4.75 – 5.875
390 e.p. blend, 68 oct.	4.625– 5.75	4.625– 5.75
390 e.p. blend, 66 oct.	4.625– 5.625	4.625– 5.625
400 e.p. blend, 65 oct. min.	4.50 – 5.50	4.50 – 5.50
U. S. Motor, under 65 octane	4.50 – 5.375	4.50 – 5.375
38-40 grav. w.w. kero., 150 fire point	4.50 – 5.00	4.50 – 5.00
41-43 grav., w.w. kero.	4.75 – 5.00	4.75 – 5.00
44 grav., w.w. kero	5.00 – 5.50	5.00 – 5.50
Diesel fuel, 24 & above	$1.25 –$1.30	$1.25 –$1.30
Diesel fuel, under 24	$1.15 –$1.25	$1.15 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 –$1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.63 –$0.70	$0.60 –$0.65
In Ships' Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 –$1.45	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.85 –$0.90	$0.85 –$0.90

Pacific Export (Cont'd)

Prices Effective	Sept. 3	Aug. 26
Cased Goods: (Per case)		
U. S. M.	$1.45 –$1.55	$1.45 –$1.55
375-400 e.p. blend, 65 oct. & above	$1.60 –$1.70	$1.60 –$1.70
400 e.p. blend, under 65 oct.	$1.50 –$1.60	$1.50 –$1.60
40-43 grav. w.w. kero., 150 fire point	$1.40 –$1.50	$1.40 –$1.50
Kero., p.w.	$1.30 –$1.45	$1.30 –$1.45

Tanker Rates

(Approximate rates. Cents per bbl.)	Last Paid	Owners Ask
Gulf-N. Atlantic: (not E. of N.Y.)		
Hvy. Crude & fuel, (10 to 19.9 gravity)	20	20
Light Crude, (30 Grav. or Lighter)	18	18
Gasoline	18	18–19
Kerosine	19	19–20
No. 2 Fuel	20	20–21

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf for domestic and export for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

MOTOR GASOLINE (ASTM Octane)

Prices Effective Sept. 3

	60-62 Gravity, 400 e.p.	61-63 Gravity, 390 e.p.	64-66 Gravity, 375 e.p.
72-74 oct. leaded	3.875 –4.75	4.125–4.25	4.25 –4.375
70 oct. unleaded	4.50 –4.75	4.50 –4.75	4.625–4.875
68 oct. unleaded	4.125 –4.75	4.125–4.375	4.25 –4.50
65 oct. unleaded	4.00 –4.625	4.00– 4.125	4.125–4.25
60 oct. unleaded	4.00 –4.50	4.00	4.00 –4.125

KEROSINE, GAS & FUEL OILS

	Sept. 3	Aug. 26
41-43 grav. w.w. kero.	4.00	4.00
Gas Oil (Less than ½ of 1% sulfur)		
Below 43 diesel index	3.125– 3.375	3.125– 3.375
43-47 diesel index	3.125– 3.375	3.125– 3.375
48-52 diesel index	3.125– 3.625	3.125– 3.625
53-57 diesel index	3.50 – 3.75	3.50 – 3.75
58 & above	3.75 – 4.125	3.75 – 4.125
No. 2 fuel	3.375– 3.75	3.375– 3.75
Diesel oil, ships' bunkers, ex lighterage	$1.50 –$1.70	$1.50 –$1.70
Grade C, ships' bunkers, ex lighterage	$0.80 –$0.90	$0.80 –$0.90
Grade C cargoes	$0.85 –$0.90	$0.85 –$0.90

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk FOB terminals)

Sept. 3

	New Steel Drums	Bulk
200 vis. D. 210 brt. stock	25.50–25.80(2)	19.80(2)
150 vis. D 210 brt. stock 0-10 p.p.	21.50–21.80(2)	15.80(2)
10-25 p.p.	21.00(1)	15.30(1)
100 vis. D 210 brt. stock 0-10 p.p.	21.00(1)	15.30(1)
10-25 p.p.	20.50(1)	14.80(1)
200 vis. No. 3 col. neutral: 0-10 p.p.	17.00(1)	11.30(1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk. exprt. shp., FOB terminals.)

Unfiltered Pale Oils: Vis. Color	Sept. 3	Aug. 26
100 No. 3	6.00 – 6.50	6.00 – 6.50
200 No. 3	7.50 – 8.50	7.50 – 8.50
300 No. 3	8.00 – 9.00	8.00 – 9.00
500 No. 3½	9.00 –10.50	9.00 –10.50
750 No. 4	9.50 –11.00	9.50 –11.00
1200 No. 4	10.00 –13.50	10.00 –13.50
2000 No. 4	10.25	10.25
Red Oils:		
Vis. Color		
100 No. 5-6	6.00 – 6.50	6.00 – 6.50
200 No. 5-6	7.50 – 8.50	7.50 – 8.50
300 No. 5-6	8.00 – 9.00	8.00 – 9.00
500 No. 5-6	9.00 –10.50	9.00 –10.50
750 No. 5-6	9.50 –11.00	9.50 –11.00
1200 No. 5-6	10.00 –13.50	10.00 –13.50
2000 No. 5-6	10.25	10.25

(i) Shipment in bags or in bulk. (j) Shipment in tight barrels. (k) A supplier quoting 5.50c at these points, said he was also offering "76 oct. (CFR), 80 oct. minimum (Research)" at 5.75c.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include* 1.5c *federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for Feb.* 21, 1940.

These prices in effect Sept. 3, 1940 *as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J	7.6	8.7	4.5	7.4
*Newark, N. J	7.6	8.7	4.5	7.4
Annapolis, Md	8.35	9.35	5.5	9.5
Baltimore, Md	7.75	8.75	5.5	8.5
Cumberland, Md	9.15	10.15	5.5	10
Washington, D. C	8	9	3.5	9.5
Danville, Va	8.95	11.45	6.5	11
Norfolk, Va	7.75	10.25	6.5	10.5
Petersburg, Va	8.05	10.55	6.5	11.2
Richmond, Va	8.05	10.55	6.5	10.5
Roanoke, Va	9.25	11.75	6.5	11
Charleston, W. Va	8.55	11.05	6.5	12.6
Parkersburg, W. Va	7.85	9.85	6.5	11.2
Wheeling, W. Va	8.85	10.75	6.5	11.8
Charlotte, N. C	9.9	10	7.5	11.8
Hickory, N. C	10.45	11.95	7.5	12.3
Mt. Airy, N. C	10.3	11.8	7.5	12.2
Raleigh, N. C	9.65	9	7.5	11.5
Salisbury, N. C	9.95	9	7.5	11.9
Charleston, S. C	7.75	10.25	7.5	9.25
Columbia, S. C	8.6	11.1	7.5	11.5
Spartanburg, S. C	9.3	11.8	7.5	12.2

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J	11.5	15.5
Baltimore, Md	15.5	....
Washington, D. C	15	....

	Fuel Oils—T.W. No. 1	No. 2	No. 3
Atlantic City, N. J	7.7	6.4	6.4
Newark	7.7	6.4	6.4
Annapolis, Md	....	6.25	....
Baltimore	7	6.25	5.75
Washington, D. C	7.25	6.50	6.50
Norfolk, Va	7	6	6
Petersburg	7.25	6.25	....
Richmond	7.25	6.25	6.25
Charlotte, N. C	8.75	7.50	....
Hickory	....	7.75	....
Raleigh	8.75	7.25	....
Charleston, S. C	8.25	6.75	....
Columbia	9.20	7.70	....
Spartanburg	10.00	8.50	....

*Effective Sept. 14, 1939, minimum retail resale price of 11.9c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w. price, thru territory, except New Jersey. While above posted prices continue at Atlantic City and Newark, dealers will pay net price of 8.6c per gal. for Esso; dealers having pumps marked only Esso, Esso Extra and Standard White gasoline will pay 8.1c per gal. for Esso.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)††

	Com. Cons. T.C.	Div. Dlr. T.W.	Gasoline Taxes	Kerosine T.W.
New York:				
N.Y.C. (Bors. of Manh'tn, Bronx, Kings & Queens)	6.3	7.5	*5.5	7.6
Bor. of Richmond (S.I.)	6.3	7.3	*5.5	7.6
New York:				
Albany	6.2	7	5.5	7.3
Binghamton	8.3	7.9	5.5	9.1
Buffalo	7.1	8.1	5.5	7.5
Jamestown	7.2	8.3	5.5	7.4
Plattsburg	6.7	8.2	5.5	7.9
Rochester	7.6	8.7	5.5	8.1
Syracuse	7.5	6.4	5.5	8.2
Conn.:				
Bridgeport	6.4	6	4.5	7.5
Danbury	6.9	7.9	4.5	8.2
Hartford	6.5	7	4.5	7.5
New Haven	6.4	5.5	4.5	7
Maine:				
Bangor	6.1	7.6	5.5	7.8
Portland	5.7	7.8	5.5	7.4
Mass.:				
Boston	5.7	6	4.5	7.7
New Hampshire:				
Concord	6.7	8.5	5.5	8.3
Lancaster	7.5	9.5	5.5	9.3
Manchester	6.6	7.5	5.5	8.5
Rhode Island:				
Providence	5.6	7	4.5	7.7
Vermont:				
Burlington	6.9	8.5	5.5	7.9
Rutland	7	8.7	5.5	8.3

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y	9.4	10.1
†New York City	8.2	8.8
Rochester, N. Y	10.2	10.9
Syracuse, N. Y	11.1	11.8
Boston, Mass	11	11
Bridgeport, Conn	11.5	12
Hartford, Conn	11	11.5
Providence, R. I	11	12

	Fuel Oils—T.W. Mobilheat & Mobilheat Heavy
New York City	6
Albany, N. Y	6.1
Rochester, N. Y	6.4
Boston, Mass	6.1
Bangor, Me	6.6
Manchester, N. H	6.9
Burlington, Vt	6.8
Hartford, Conn	6.3
New Haven, Conn	6.3
Providence, R. I	6.1

*Plus 2% city sales tax computed at time of each sale.

†Prices apply to consumers only in quantities over 1000 gals. annually; for quantities under 1000 gals. annually, add 0.5c per gal.

††Same prices apply for No. 1 fuel.

Discounts: Gasoline—To undivided dealers, 0.5c less than divided dealer t.w.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.C.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa	7	8.5	5.5	10
Pittsburgh	8	9.5	5.5	10.5
Allentown	8	9.5	5.5	10.5
Erie	8	9.5	5.5	10
Scranton	7	8.75	5.5	10.5
Altoona	8	10	5.5	10.5
Emporium	8	10	5.5	10.5
Indiana	8	10	5.5	10.5
Uniontown	8	10	5.5	10.5
Harrisburg	8	9.5	5.5	10.5
Williamsport	8	9.5	5.5	10
Dover, Del	....	8.5	5.5	10.5
Wilmington	....	8.5	5.5	10
Boston, Mass	....	6	4.5	7.9
Springfield, Mass	....	6.9	4.5	8.4
Worcester, Mass	....	7.3	4.5	7.8
Fall River, Mass	....	7.1	4.5	7.9
Hartford, Conn	....	7	4.5	7.9
New Haven, Conn	....	5.5	4.5	7.9
Providence, R. I	....	7.1	4.5	7.9
Atlantic City, N. J	....	8.6	4.5	7.4
Camden, N. J	....	8.6	4.5	7.4
Trenton, N. J	....	7.6	4.5	7.4
Annapolis, Md	....	9.35	5.5	9.5
Baltimore, Md	....	8.75	5.5	8.5
Hagerstown, Md	....	9.85	5.5	10
Richmond, Va	....	10.55	6.5	10.5
Wilmington, N. C	....	10.35	7.5	10.8
Brunswick, Ga	....	8	7.5	*9
Jacksonville, Fla	....	7	8.5	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa	12	14.5
Lancaster, Pa	13.5	16
Pittsburgh, Pa	14.5	14.5

	Fuel Oils—T.W. 1	2	3	5	6
Phila., Pa	8	6.25	6.25	4.25	3.50
Allentown, Pa	8.5	6.25	6.25	....	....
Wilmington, Del	8.00	6.25	6.25	....	....
Springfield, Mass	8.4	6.5	6.5	....	....
Worcester, Mass	7.8	6.4	6.4	....	....
Hartford, Conn	7.9	6.3	6.3	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same. At Scranton, Pa., 1c per gal. voluntary discount allowed to dealers only.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

Naphthas—Philadelphia, 200 gals. or more at one time, 2c off Lancaster, contract buyers taking 1000 gals. or more per year, one drum up, 2c off; non-contract buyers, 200 gals. or more at one time, 2c off. Pittsburgh, 500 gals. or more at one time, 2c off.

S. O. Ohio

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	Divided Dlr.	‡S.S.	Gasoline Taxes	†Kerosine T.W.
Ohio, Statewide	10.5	9.5	12.5	5.5	8
Akron	10.5	8	9.5	5.5	8
Cincinnati	10.5	8.5	11	5.5	8
Cleveland	10.5	8.5	11	5.5	8
Columbus	10.5	8.5	11	5.5	8
Dayton	10.5	8	10	5.5	8
Marietta	10.5	9	11	5.5	8
Portsmouth	10.5	9.5	12.5	5.5	8
Toledo	10.5	8	10	5.5	8
Youngstown	10.5	8.5	11	5.5	7.5

Esso Aviation Gasoline—Thru Ohio

	Consumer T.W.	Gasoline Taxes
74 octane	15.5	5.5
80 octane	16.5	5.5
87 octane	17.5	5.5

†Naphthas — Statewide	T.W.
S.R. Solvent	12.75
D.C. Naphtha	13.25
V.M.&P. Naphtha	13.25
Varnolene	13.25
Sohio Solvent	13.25

††Fuel Oils—T.W.	No. 1	No. 2	No. 3
Toledo	7.00	7.00	6.50
Rest of Ohio	7.50	7.50	7.00

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Prices are for full compartment hose dumps; bucket dumps are 0.5c per gal. higher.

Discounts:

X-70 gasoline—to undivided dealers, 0.5c off dealer t.w.

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Naphthas—to contract consumers off t.w. prices: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gasoline Taxes	Kerosine T.W.
Covington, Ky	8.5	7.5	6.5	9.5
Lexington, Ky	8	6	6.5	9.5
Louisville, Ky	8.5	6.5	6.5	9
Paducah, Ky	9	8	6.5	9
Jackson, Miss	9	8	7.5	*8.5
Vicksburg, Miss	8.5	7.5	7.5	*8.5
Birmingham, Ala	9	8	*8.5	9
Mobile, Ala	6.5	5	*9.5	8
Montgomery, Ala	9	7.5	*9.5	*9
Atlanta, Ga	8.5	7	7.5	*9
Augusta, Ga	9.5	8.5	7.5	*9
Macon, Ga	9.5	8	7.5	*8
Savannah, Ga	8.5	7.5	7.5	*8
Jacksonville, Fla	7	6.5	8.5	8
Miami, Fla	7	6.5	8.5	8
Pensacola, Fla	8	7	*9.5	8.5
Tampa, Fla	7	6.5	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Dealer Prices Crown Cons. T.W.	Red Crown	Stanolind	Gasoline Taxes	Kerosine T.W.
Chicago, Ill	11.1	9.1	6.4	4.5	10
Decatur, Ill	10.1	8.6	7	4.5	9.5
Joliet, Ill	11.1	9.6	8.1	4.5	10
Peoria, Ill	11.1	8.7	8.1	4.5	10
Quincy, Ill	10.9	9.4	7.6	4.5	9.8
Indianapolis, Ind	11.8	9.3	8.9	5.5	*10.2
Evansville, Ind	11.6	10.1	9.1	5.5	*10.5
South Bend, Ind	11.8	10.3	8.8	5.5	*10.2
Detroit, Mich	9.6	8.1	7.1	4.5	7.6
Grand Rapids, Mich	9.2	6.7	6.7	4.5	9
Saginaw, Mich	10.4	8.9	8.4	4.5	9.1
Green Bay, Wis	11.9	10.4	8.9	5.5	10.3
Milwaukee, Wis	11.3	9.8	9.3	5.5	10.2
La Crosse, Wis	11.5	10	9.5	5.5	10.4
Minneapolis-St. Paul	11.5	9.7	9.2	4.5	10.4
Duluth, Minn	11.9	10.4	9.9	4.5	10.8
Mankato, Minn	11.5	10	8.5	4.5	9
Des Moines, Ia	10.9	9.4	7.9	4.5	*9.8
Davenport, Ia	11.1	9.6	8.4	4.5	*10
Mason City, Ia	11.3	9.8	7.4	4.5	*10.2
St. Louis, Mo	10.7	8.7	7.5	*4.5	9
Kansas City, Mo	10.4	8.9	6.9	*4.5	8
St. Joseph, Mo	10.4	8.5	7.5	*4.5	7.9
Fargo, N. D	12.7	11.2	9.3	5.5	11.6
Huron, S. D	12	10.5	10	5.5	10.9
Wichita, Kans	9.3	7.8	5.5	4.5	7

(Continued on next page)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes:** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for Feb. 21, 1940. These prices in effect Sept. 3, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Stanavo Aviation 73 Octane

Chicago, Ill.	14.9	
Detroit, Mich.	16.5	4.5
Milwaukee, Wis.	15.1	5.5
Minneapolis, Minn.	15.3	4.5
St. Louis, Mo.	14.5	3.5
Kansas City, Mo.	14.2	*4.5
Fargo, N. D.	16.5	5.5
Huron, S. D.	15.8	5.5

(Prices are base prices before discounts)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
Chicago	12.7	13	12.4	4.5
Detroit	15.2	14.2	15.7	4.5
K. C., Mo.	12.9	13.9	13.4	1.5
St. Louis	13.2	14.2	12.4	1.5
Milwaukee	13.8	14.8	14.3	5.5
Minneap'lis	14	15	12.7	4.5

†Fuel Oils—T.W.	No. 1 Fuel	Stanolex Furnace
Chicago	**6.50	6.50
Indianapolis	....	*7.5
Detroit	....	6.6
Milwaukee	8.2	7.7
Minneapolis	7.5	7.5
St. Louis	7.0	6.50
Kansas City	6.8	6.8

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1c federal tax and state taxes.

†Prices for small-lot deliveries range up to 2c higher than above prices.

**For 400 gals. & over; 150 to 399 gals., 7.25c; 1 to 149 gals., 8.25c.

S. O. Nebraska

Standard Red Crown Gasoline (*Regular Grade*)

	T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	10.5	9.4	6.5	9.0
McCook	11	7.9	6.5	9.5
Norfolk	11	8.9	6.5	9.9
North Platte	11.3	8.5	6.5	10.2
Scottsbluff	11.9	9	6.5	10.5

S. O. Louisiana

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Little Rock, Ark.	7.25	8.5	8	10
Alexandria, La.	6.75	9.25	8.5	*9.5
Baton Rouge, La.	6.75	9.25	8.5	*9.5
New Orleans, La.	5.75	8.25	8.5	*9
Lake Charles, La.	6.75	9.25	8.5	*9
Shreveport, La.	5.5	8	8.5	*8
Lafayette, La.	7	9.5	8.5	*9
Bristol, Tenn.	10.25	10.25	8.5	12
Chattanooga, Tenn.	9.5	7.25	8.5	12
Knoxville, Tenn.	10	11.5	8.5	12.5
Memphis, Tenn.	8	9.5	8.5	11
Nashville, Tenn.	9	8	8.5	11.5

*New Orleans kerosine price is ex 1c parish tax, and all Louisiana kerosine prices are ex 1c state tax.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)

	Tank Truck	Retail	Gasoline Taxes	Kerosine T.W.
Dallas, Tex.	6	10	5.5	6
Ft. Worth, Tex.	6	10	5.5	7
Houston, Tex.	7	11	5.5	8
San Antonio, Tex.	7	11	5.5	8

Thriftane

(Leaded, 67 Octane, Purple Gasoline)

Dallas	5	8	5.5
Ft. Worth	5	8	5.5
Houston	5	8	5.5
San Antonio	5	8	5.5

74 Octane Aviation Gasoline, Clear

	Tank Car
FOB Baytown, Tex.	8.5

*To all classes of dealers & consumers.

The Texas Co.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex.	6	5	5.5
Ft. Worth, Tex.	6	5	5.5
Wichita, Falls, Tex.	7	5	5.5
Amarillo, Tex.	7	5	5.5
Tyler, Tex.	7	5	5.5
El Paso, Tex.	8	7	5.5
San Angelo, Tex.	7	5	5.5
Waco, Tex.	6.5	4.5	5.5
Austin, Tex.	7	5	5.5
Houston, Tex.	7	5	5.5
San Antonio, Tex.	7	5	5.5
Port Arthur, Tex.	8.5	5	5.5

Continental Oil

	Conoco Bronz-z-z (*Regular*) T.W.	Demand (*3rd Grade*)	Gasoline Taxes	Kerosine T.W.
Denver, Col.	8	7	5.5	10.5
Grand Junction, Col.	12	11	5.5	12.5
Pueblo, Col.	10	8	5.5	9
Casper, Wyo.	11	10	5.5	11.5
Cheyenne, Wyo.	9	8	5.5	11
Billings, Mont.	11	10	6.5	12
Butte, Mont.	9	8	6.5	13
Great Falls, Mont.	11	9	6.5	12
Helena, Mont.	9	8	6.5	12.5
Salt Lake City, Utah	10.5	9.5	5.5	14
Boise, Ida.	*14.1	*13.1	6.5	16
Twin Falls, Ida.	*15.1	*14.1	6.5	16.5
Albuquerque, N. M.	9	8	*7	9.5
Roswell, N. M.	7	6	*7	8
Santa Fe, N. M.	9.5	8.5	*7.5	9.5
Ft. Smith, Ark.	9.5	6.25	5.5	7
Little Rock, Ark.	9.25	7.5	8	8
Texarkana, Ark.	8	5	5.5	7
Muskogee, Okla.	8	7	5.5	7
Oklahoma City, Okla.	6	5.5	5.5	6.5
Tulsa, Okla.	7	6	5.5	6

Conoco Special Gasoline (Aviation)

	T.W.	Gasoline Taxes
Denver, Colo.	15	5.5
Cheyenne, Wyo.	15.5	5.5
Helena, Mont.	22.5	6.5
Salt Lake City, Utah	18	5.5
Albuquerque, N. M.	14	*7

*Taxes: In gasoline tax column are included these city taxes—Albuquerque and Roswell, 0.5c; Santa Fe 1c. Idaho prices include 0.1c to cover 1-mill tax for toll bridges.

S. O. California

Standard Gasoline (*Regular Grade*)

	Tank Truck	Retail	Gasoline Taxes	Kerosine T.W.
San Francisco, Cal.	12	13	4.5	11.5
Los Angeles, Cal.	11.5	12.5	4.5	10
Fresno, Cal.	13	14	4.5	12.5
Phoenix, Ariz.	14	15	6.5	*12.5
Reno, Nev.	14	15	5.5	13.5
Portland, Ore.	12.5	13.5	6.5	13.5
Seattle, Wash.	12.5	13.5	6.5	13.5
Spokane, Wash.	14	15	6.5	16.5
Tacoma, Wash.	12.5	13.5	6.5	13.5

Flight Gasoline (*Third Grade*)

San Francisco, Cal.	10	11	4.5	....
Los Angeles, Cal.	9.5	10.5	4.5	....
Fresno, Cal.	11	12	4.5	....
Reno, Nev.	12	13	5.5	....
Phoenix, Ariz.	11	12	6.5	....
Portland, Ore.	10.5	11.5	6.5	....
Seattle, Wash.	10.5	11.5	6.5	....
Spokane, Wash.	12	13	6.5	....
Tacoma, Wash.	10.5	11.5	6.5	....

Stanavo Aviation Gasoline

Phoenix, Ariz.	17.5	..	6.5	....
Los Angeles, Cal.	15	..	4.5	....
San Francisco, Cal.	15.5	..	4.5	....
Reno, Nev.	17.5	..	5.5	....
Portland, Ore.	16	..	6.5	....
Seattle, Wash.	16	..	6.5	....
Spokane, Wash.	19	..	6.5	....

*Taxes: Arizona kerosine prices are ex 5c state tax.

Discounts:

To 100% dealers—3c off t.w. on Standard and Stanavo Aviation; 2c off t.w. on Flight.

Canada

PRICES OF IMPERIAL OIL LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline

	(*Regular Grade*) T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont.	16	8	16.50
Toronto, Ont.	16	8	16.50
Brandon, Man.	21	7	22.50
Winnipeg, Man.	20	7	21.50
Regina, Sask.	18	7	20
Saskatoon, Sask.	21	7	23
Edmonton, Alta.	18	7	20
Calgary, Alta.	16	7	18
Vancouver, B. C.	16	7	23
Montreal, Que.	16	8	16.5
St. John, N. B.	14.50	10	18
Halifax, N. S.	14.50	10	18

Discounts: To undivided dealers, 1c off t.w. price, except Maritime Provinces where undivided dealers pay t.w. price, and except Vancouver, B. C. where both divided and undivided dealers get 2c off t.w. price. Divided dealers pay t.w. price thru territory.

Price Changes

(These changes have been made in price tables)

Socony-Vacuum—Mobilgas:

Following reductions effective Aug. 28:

Commercial T. C.

New York City and Bor. of Richmond 0.2c; Bangor, Portland, Boston, and Providence 0.3c.

Commercial Consumer T. W.

New York City, Bor. of Richmond, Albany, Plattsburg, Bridgeport, Danbury, Hartford, New Haven, Portland, Burlington, and Rutland cut 0.2c; Bangor, Boston, Concord, Lancaster, Manchester, and Providence 0.3c.

Divided Dealer T. W.

New York City, Portland and Burlington 0.2c; Syracuse 1.4c; Bridgeport 0.5c; Danbury 0.1c; Bangor 0.8c; Concord and Lancaster 0.3c.

Atlantic Refining—White Flash:

Boston dealer t. w. cut 0.5c, Aug. 28.
Fall River dealer t. w. cut 0.6c, Aug. 28.
Providence dealer t. w. cut 0.3c, Aug. 28.

Atlantic Refining—Kerosine:

Annapolis and Baltimore t. w. cut 0.5c, Aug. 26.

S. O. Ohio—Sohio X-70:

Cincinnati dealer t. w. and s. s. cut 0.5c, Sept. 3.

S. O. Indiana—Red Crown:

Saginaw consumer t. w. up 2.2c, dealer up 0.2c, Sept. 3.

S. O. Indiana—Stanolind:

Saginaw dealer up 0.2c, Sept. 3.

S. O. Indiana—Kerosine:

Saginaw t. w. cut 0.2c, Sept. 3.

S. O. Louisiana—Esso:

Bristol dealer t. w. up 0.75c, Aug. 27.
Chattanooga dealer t. w. cut 2c, Aug. 24.
Nashville dealer t. w. cut 1.5c, Aug. 24.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Aug. 28, 1940)

Bradford-Allegany $1.85
Southwest Penna. $1.50
Eureka (West Va.) $1.44
Corning, O. (Nov. 1, 1939) $1.12

Posted by Tide Water Assoc. Oil Co. (Aug. 28, 1940)

Bradford-Allegany $1.85

Posted by The Pennzoil Co. (Aug. 28, 1940)

National Transit $1.78*

Posted by Valvoline Pipe Lines (Aug. 28, 1940)

Bradford (Elk & McKean Counties, Pa.) $1.85
Warren, Forest, Venango, Clarion & Butler Counties, Pa. $1.78
Allegheny, Beaver, Washington & Greene Counties, Pa. $1.50
West Virginia $1.44
South Eastern Ohio $1.40

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $1.73 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (Aug. 24, 1940)

Midland, Midland County $1.12
Sherman $1.07
Clare-Freeman $1.07

Posted by Simrall Corp. (Aug. 24, 1940)

Crystal, Greendale, Porter, Vernon and Wise $1.12
Beaverton, Buckeye, Bentley, Edenville $1.10
Freeman and Redding $1.07
Arenac $0.92
West Branch $0.92

Posted by Sohio Corp. (Michigan Division)

Allegan & Kent Counties (Aug. 24, 1940) $1.18
Van Buren County (Sept. 3, 1940) $1.12

Posted by Bay Pipe Line Corp. (Aug. 24, 1940)

Bentley and Buckeye $1.10
Saginaw and Wise ..... $1.12 Clare $0.81

ILLINOIS-INDIANA-KENTUCKY

Posted by Ohio Oil Co.

Illinois and Western Indiana (Aug. 23, 1940) $1.00
Illinois Basin (Aug. 21, 1940) $1.15

Posted by Sohio Corp.

Illinois Basin:
Salem (Lake Centralia) (Aug. 21, 1940) $1.15
Balance of Illinois Basin (Aug. 21, 1940) $1.15
Griffin (So. Ill.-Ind.) pool (Aug. 21, 1940) $1.15

Posted by Carter Oil Co. (Aug. 21, 1940)

Louden, Fayette County, Ill. $1.15

Posted by Mohawk Oil Lines, Inc. (Aug. 21, 1940)

Southern Ill. heavy ..... $1.05 Light $1.15

Posted by Ashland Oil & Transportation Co. (Aug. 21, 1940)

Somerset Oil in Ashland Lines, Kentucky:
Big Sandy River ..... $1.12 Kentucky River $1.20

Posted by Sohio Corp. (Aug. 21, 1940)

Birk City, Ky., Area $1.05
Corydon, Ky. Area (Henderson) $1.05

Posted by Owensboro-Ashland Co.

Owensboro, Ky. Area (Aug. 21, 1940) $1.10

CANADIAN FIELDS

Posted by Imperial Oil Limited
Western Ontario (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Turner Valley (Prices FOB producer's tankage)

Crude Oil (July 18, 1940)

33-33.9 ... $1.05	44-44.9 ... $1.27	55-55.9 ... $1.49
34-34.9 ... 1.07	45-45.9 ... 1.29	56-56.9 ... 1.51
35-35.9 ... 1.09	46-46.9 ... 1.31	57-57.9 ... 1.53
36-36.9 ... 1.11	47-47.9 ... 1.33	58-58.9 ... 1.55
37-37.9 ... 1.13	48-48.9 ... 1.35	59-59.9 ... 1.57
38-38.9 ... 1.15	49-49.9 ... 1.37	60-60.9 ... 1.59
39-39.9 ... 1.17	50-50.9 ... 1.39	61-61.9 ... 1.61
40-40.9 ... 1.19	51-51.9 ... 1.41	62-62.9 ... 1.63
41-41.9 ... 1.21	52-52.9 ... 1.43	63-63.9 ... 1.65
42-42.9 ... 1.23	53-53.9 ... 1.45	64 & over. 1.67
43-43.9 ... 1.25	54-54.9 ... 1.47	

Crude Naphtha (Jan. 5, 1938)

65 gravity & above $2.14

Absorption Gasoline (Jan. 5, 1938)

90% Rec., 20 lb. Reid v.p. $1.94
98% Rec., 17 lb. Reid v.p. $2.08

*MID-CONTINENT—Oklahoma-Kansas

	S. O. Indiana	Carter Oil Co.	Magnolia Petroleum Co.	Shell Oil Co.	Continental Oil Co.	Texas Co.	Sinclair Prairie Oil Co.
Below 21°	$0.70	$0.60	....	....	....	....	....
21-21.9	.72	.63	....	....	....	....	....
22-22.9	.74	.66	....	....	....	....	....
23-23.9	.76	.69	....	....	....	....	....
24-24.9	.78	.72	....	....	....	....	....
25-25.9	.80	.75	....	....	....	....	$0.58
26-26.9	.82	.78	....	....	....	....	.63
27-27.9	.84	.81	....	....	....	....	.68
28-28.9	.86	.84	$0.86	....	....	....	.73
29-29.9	.88	.87	.88	....	....	....	.78
30-30.9	.90	.90	.90	....	....	....	.82
31-31.9	.92	.92	.92	....	....	....	.86
32-32.9	.94	.94	.94	....	....	....	.90
33-33.9	.96	.96	.96	....	....	....	.96
34-34.9	.98	.98	.98	....	....	....	.98
35-35.9	1.00	1.00	1.00	1.00	1.00	1.00	1.00
36-36.9	1.02	1.02	1.02	1.02	1.02	1.02	1.02
37-37.9	1.04	1.04	1.04	1.04	1.04	1.04	1.04
38-38.9	1.06	1.06	1.06	1.06	1.06	1.06	1.06
39-39.9	1.08	1.08	1.08	1.08	1.08	1.08	1.08
40 & above	1.10	1.10	1.10	1.10	1.10	1.10	1.10

*Effective in 1938 by Carter Oil, Oct. 13, posting in Okla. only; Continental Oil, Oct. 11, with lowest grade below 29; Magnolia, Oct. 12, posting in Okla. only; Shell, Oct. 22; S. O. Indiana, Oct. 17; The Texas Co., Oct. 12. Aug. 31, 1939, by Sinclair-Prairie.

*North-North Central and Central Texas

	Stanolind	Sinclair Texas Co. Continental Magnolia
Below 21°	$0.60	....
21-21.9	.62	....
22-22.9	.64	....
23-23.9	.66	....
24-24.9	.68	$0.79
25-25.9	.70	for
26-26.9	.72	oil
27-27.9	.74	below
28-28.9	.76	29°.
29-29.9	.78	.81
30-30.9	.80	.83
31-31.9	.82	.85
32-32.9	.84	.87
33-33.9	.86	.89
34-34.9	.88	.91
35-35.9	.90	.93
36-36.9	.92	.95
37-37.9	.94	.97
38-38.9	.96	.99
39-39.9	.98	1.01
40 & above	1.00	1.03

*Effective Oct. 11, 1938 by Continental, in North Tex.; Oct. 12, 1938, by Texas Co. in North & North Central Texas. Texas Co.'s lowest grade is 28-28.9, at $0.79; by Magnolia, Dec. 3, 1938, in N. and N. Central Texas; July 16, 1940, by Sinclair-Prairie in Mexia & North Central Texas.

Jefferson County, Texas—Beaumont

(Posted by Magnolia Petroleum Co., Effective Oct. 2, 1939, and by Stanolind Oil & Gas Co., for West Beaumont, Effective Oct. 2, 1939)

Below 20°	$0.86	30-30.9	$1.08
20-20.9	.88	31-31.9	1.10
21-21.9	.90	32-32.9	1.12
22-22.9	.92	33-33.9	1.14
23-23.9	.94	34-34.9	1.16
24-24.9	.96	35-35.9	1.18
25-25.9	.98	36-36.9	1.20
26-26.9	1.00	37-37.9	1.22
27-27.9	1.02	38-38.9	1.24
28-28.9	1.04	39-39.9	1.26
29-29.9	1.06	40 & above	1.28

TEXAS FIELDS

Posted by Humble Oil & Refining Co.

***West Central Texas** (Aug. 11, 1939)

24-24.9	$0.71	33-33.9	$0.89
25-25.9	.73	34-34.9	.91
26-26.9	.75	35-35.9	.93
27-27.9	.77	36-36.9	.95
28-28.9	.79	37-37.9	.97
29-29.9	.81	38-38.9	.99
30-30.9	.83	39-39.9	1.01
31-31.9	.85	40 & above	1.03
32-32.9	.87		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young Counties.

Effective Aug. 29, 1939, Shell posted in Fisher county, Tex., prices 3c lower than Humble's West Central Texas prices; Shell's schedule begins with below 25, at $0.68 and ends with 40 & above, at $1.

Note: Effective Oct. 1, 1937, Humble prices are based on 100% tank tables at 60F.

***East Central Texas** (Aug. 11, 1939)

23-23.9	$0.78	32-32.9	$0.96
24-24.9	.80	33-33.9	.98
25-25.9	.82	34-34.9	1.00
26-26.9	.84	35-35.9	1.02
27-27.9	.86	36-36.9	1.04
28-28.9	.88	37-37.9	1.06
29-29.9	.90	38-38.9	1.08
30-30.9	.92	39-39.9	1.10
31-31.9	.94	40 and above	1.12

Posted by Pan American Pipe Line Co.
(Oct. 2, 1939)

Cayuga, Anderson county $0.78
*Including Anderson, Cherokee, Limestone, Navarro counties.

PANHANDLE TEXAS

	Humble (Aug. 11, 1939)		Texas Co. (Oct. 2, 1939)	
	Gray County	Carson Hutchinson	Sweet	Sour
28-28.9	$0.72	$0.67	....	....
29-29.9	.74	.69	....	....
30-30.9	.76	.71	....	....
31-31.9	.78	.73	....	....
32-32.9	.80	.75	....	....
33-33.9	.82	.77	....	....
34-34.9	.84	.79	$0.84	$0.79
35-35.9	.86	.81	.86	.81
36-36.9	.88	.83	.88	.83
37-37.9	.90	.85	.90	.85
38-38.9	.92	.87	.92	.87
39-39.9	.94	.89	.94	.89
40 & above	.96	.91	.96	.91

Effective Aug. 31, 1939, Sinclair Prairie met Humble in Panhandle Texas. Dec. 3, 1938, Magnolia posted same scheduie as Humble.

*EAST TEXAS

By Humble, Shell, Sinclair-Prairie, Stanolind, Gulf, Magnolia, Texas Co., Tide Water-Associated $1.10

*Effective dates: Aug. 11, 1939, by Humble and Tide Water-Associated; Aug. 29, 1939, by Stanolind; Oct. 2, 1939 by Sinclair Prairie; Oct. 5, 1939 by Shell; Oct. 12, 1938, by Magnolia, Texas Co.; Oct. 13, 1938, by Gulf.

*Includes Cherokee, Gregg, Rusk, Smith and Upshur counties.

Posted by Shell Oil Co., Inc. (Oct. 5, 1939)

Polk County, Tex. (Livingston area) $1.10

NORTHEAST TEXAS

(Posted by Humble, Oct. 2, 1939)

Talco $0.65

(Posted by Magnolia, Oct. 12, 1938)

Cass County and Panola County, Tex.:
Magnolia posts below 25° at $0.73, plus 2c differential for each degree, to top grade of 40 & above, at $1.05.

(Posted by The Texas Co., Oct. 12, 1938)

Cass County $1.05

(a) WEST TEXAS and NEW MEXICO

	Humble	Stanolind	Shell	Texas Co. Sinclair (c)
Below 20°	$0.53	....	$0.53	....
20-20.9	.55	....	.55	....
21-21.9	.57	....	.57	....
22-22.9	.59	$0.67	.59	....
23-23.9	.61	for	.61	....
24-24.9	.63	oil	.63	....
25-25.9	.65	Below	.65	$0.65
26-26.9	.67	26°.	.67	.67
27-27.9	.69	.69	.69	.69
28-28.9	.71	.71	.71	.71
29-29.9	.73	.73	.73	.73
30-30.9	.75	.75	.75	.75
31-31.9	.77	.77	.77	.77
32-32.9	.79	.79	.79	.79
33-33.9	.81	.81	.81	.81
34-34.9	.83	.83	.83	.83
35-35.9	.85	.85	.85	.85
36-36.9	.87	.87	.87	.87
37-37.9	.89	.89	for	for
38-38.9	.91	.91	oil	oil
39-39.9	.93	.93	36° &	36° &
40 & above	.95	.95	above.	above.

Posted by Magnolia Petroleum Co.

(Oct. 12, 1938 in West Texas;
Oct. 15, 1939 in Lea County, N. Mex.)

	West Texas	N. Mex.		West Texas	N. Mex.
Below 25.	$0.63	$0.63	33-33.9 ..	$0.81	$0.81
25-25.9 ..	.65	.65	34-34.9 ..	.83	.83
26-26.9 ..	.67	.67	35-35.9 ..	.85	.85
27-27.9 ..	.69	.69	36-36.9 ..	.87	.87
28-28.9 ..	.71	.71	37-37.9 ..	.89	for
29-29.9 ..	.73	.73	38-38.9 ..	.91	oil
30-30.9 ..	.75	.75	39-39.9 ..	.93	36 &
31-31.9 ..	.77	.77	40 & over.	.95	above
32-32.9 ..	.79	.79			

Note: Magnolia's West Texas postings are in Crane, Glasscock, Howard, Mitchell, Upton and Winkler counties.

Pecos County, West Texas

(Posted by Humble Aug. 11, 1939 and Shell, Aug. 29 '39)

Pecos $0.78
Yates Shallow Pool (Shell only) ..... .65

Posted by Sinclair Prairie Oil Marketing Co.

(Aug. 31, 1939)

Eddy county, N. Mex. $0.77

(a) Effective Aug. 11, 1939 by Humble; Shell Oil, Aug. 29, 1939; by The Texas Co., Oct. 12 1938; Stanolind, Aug. 29, 1939; Sinclair Prairie, Aug. 31, 1939.

(c) Texas Co. posts $0.65 for below 26; Sinclair Prairie, $0.63 for below 25.

Note: Humble's postings are in these counties: Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler and Yoakum, West Texas; and Lea county, N. Mex.; Shell, in Crane, Ector, Glasscock, Howard, Upton, Winkler, Yoakum, Lea; Stanolind in Hendrick and Henderson field, Winkler county; Texas Co. in Ward, Winkler and Lea

Posted by Continental Oil Co. (Oct. 11, 1938)

Artesia, Jackson and Maljamar pools, New Mexico gravity schedule beginning with below 29, at $0.61; 29-29.9, at $0.63; plus 2c differential for each gravity, up to 40 & above, at $0.85.

COLORADO

Posted by Continental Oil Co. (Oct. 11, 1938)
Ft. Collins and Wellington

Below 29	$0.81	35-35.9	$0.95
29-29.9	.83	36-36.9	.97
30-30.9	.85	37-37.9	.99
31-31.9	.87	38-38.9	1.01
32-32.9	.89	39-39.9	1.03
33-33.9	.91	40 & above	1.05
34-34.9	.93		

Canon City and Florence, Col. $0.90

SOUTH AND SOUTHWEST TEXAS

All Shown Below Posted by Humble Oil & Refining Co. (Aug. 11, 1939)

Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoboroski crudes $0.96
Van crude $0.93
Conroe $1.27

(Oct. 2, 1939)

Flour Bluff and Jim Wells County $1.23

(Sept. 14, 1939)

Hardin, Liberty county $1.10

Oct. 12, '38, Magnolia posted $0.96 in Darst Creek; $0.87 in Luling; $0.99 in Lytton Springs; $1.14 for Cleveland, and $1.02 in Hardin, both in Liberty county, Tex

Oct. 12, '38, The Texas Co. posted $0.96 in Darst Creek.

(Continued on next page)

CRUDE OIL PRICES

(Continued from preceding page)

***Anahuac-Dickinson** (Oct. 2, 1939)

Below 20°	$0.81	30-30.9	$1.03
20-20.9	.83	31-31.9	1.05
21-21.9	.85	32-32.9	1.07
22-22.9	.87	33-33.9	1.09
23-23.9	.89	34-34.9	1.11
24-24.9	.91	35-35.9	1.13
25-25.9	.93	36-36.9	1.15
26-26.9	.95	37-37.9	1.17
27-27.9	.97	38-38.9	1.19
28-28.9	.99	39-39.9	1.21
29-29.9	1.01	40 & above	1.23

*Anahuac-Dickinson includes Cedar Point, Fairbanks, Gillock, Hull, Pierce Junction and Raccoon Bend (shallow sand) and Turtle Bay.

Raccoon Bend (Deep sand crude) Tomball and Satsuma (Aug. 11, 1939)

22-22.9	$0.95	32-32.9	$1.15
23-23.9	.97	33-33.9	1.17
24-24.9	.99	34-34.9	1.19
25-25.9	1.01	35-35.9	1.21
26-26.9	1.03	36-36.9	1.23
27-27.9	1.05	37-37.9	1.25
28-28.9	1.07	38-38.9	1.27
29-29.9	1.09	39-39.9	1.29
30-30.9	1.11	40 & above	1.31
31-31.9	1.13		

Dec. 3, 1938, Magnolia posted above price and gravity schedule in Tomball. Effective Aug. 29, 1939, Stanolind met Humble in Tomball, except that Stanolind's schedule begins with below 29 at $1.07.

LOUISIANA-ARKANSAS

Posted by Standard Oil Co. of Louisiana

(†) (For effective dates, see footnote)

	*N. La. Ark. Sweet	Bunkie Eola, La.	*South La. Sour	*Ark. Sour	Baton Rouge-University
Below 20°					$0.79
20-20.9	$0.73	$0.83	‡$0.74	$0.63	.82
21-21.9	for	for	.77	for	.85
22-22.9	oil	oil	.80	oil	.88
23-23.9	Below	Below	.83	Below	.91
24-24.9	25°.	25°.	.86	25°.	.94
25-25.9	.75	.85	.89	.65	.97
26-26.9	.77	.87	.92	.67	1.00
27-27.9	.79	.89	.94	.69	1.02
28-28.9	.81	.91	.96	.71	1.04
29-29.9	.83	.93	.98	.73	1.06
30-30.9	.85	.95	1.00	.75	1.08
31-31.9	.87	.97	1.02	.77	1.10
32-32.9	.89	.99	1.04	.79	1.12
33-33.9	.91	1.01	1.06	.81	1.14
34-34.9	.93	1.03	1.08	.83	1.16
35-35.9	.95	1.05	1.10	.85	1.18
36-36.9	.97	1.07	1.12	.87	1.20
37-37.9	.99	1.09	1.14	.89	1.22
38-38.9	1.01	1.11	1.16	.91	1.24
39-39.9	1.03	1.13	1.18	.93	1.26
40 & above	1.05	1.15	1.20	.95	1.28

(Aug. 30, 1939)

Smackover, Ark. $0.73
Cotton Valley Distillate $1.20

*N. La.-Ark. Sweet includes Caddo, Cotton Valley, Cross Lake, De Soto, Haynesville, Homer, Rodessa, Sabine and Sligo, La. crudes, and Miller county, Ark. S. La. Sour includes Choctaw, Darrow, N. Crowley, Roanoke and St. Martinsville. S. Ark. Sour includes Buchner, Magnolia and Village pools.

†N. La.-Ark. Sweet crude and S. La. Sour effective Aug. 30, 1939, except Cross Lake, La., Sept. 7, Baton Rouge-Univ., Sept. 11, and Bunkie and Eola, Oct. 23, 1939; and Ark. Sour, Sept. 13, 1939.

‡For Below 21°.

Effective Sept. 8, 1939, Gulf Refg. Co. met S. O. La's. N. La.-Ark. Sweet prices in Bull Bayou, Caddo, Crichton, De Soto, Haynesville, Homer, and El Dorado

Posted by Arkansas Fuel Oil Corp.

Urania, La. (Jan. 28, 1937) $1.02

Posted by Continental Oil Co.

(Oct. 11, 1938)

Tepetate and Ville Platte, La. $1.03

(Jan. 1, 1939)

Abbeville, La.

Below 36	$0.92	38-38.9	$0.98
36-36.9	.94	39-39.9	1.00
37-37.9	.96	40 & above	1.02

Posted by Caddo Crude Oil Purchasing Corp.

(Aug. 14, 1939)

Allison area, Shreveport field $0.95

Lisbon, N. La. (Sept. 14, 1939)

27-27.9	$0.66	32-32.9	$0.76
28-28.9	.68	33-33.9	.78
29-29.9	.70	34-34.9	.80
30-30.9	.72	35 & above	.82
31-31.9	.74		

Lisbon prices met by Gulf, Sept. 14.

Note: S. O. Louisiana prices in all La.-Ark. fields, effective Oct. 5, 1938, are on 100% tank table basis.

GULF COASTAL FIELDS

(a) (For effective dates, see footnote)

	Humble Sinclair Stano-lind	Refugio Crude (Humble, Conti-nental)	Texas Co.	Shell
Below 20	$0.86	$0.91	$0.86	(b)$0.79
20-20.9	.88	.93	.88	.81
21-21.9	.90	.95	.90	.83
22-22.9	.92	.97	.92	.86
23-23.9	.94	.99	.94	.89
24-24.9	.96	1.01	.96	.92
25-25.9	.98	1.03	.98	.95
26-26.9	1.00	1.05	1.00	.98
27-27.9	1.02	1.07	1.02	1.00
28-28.9	1.04	1.09	1.04	1.02
29-29.9	1.06	1.11	1.06	1.04
30-30.9	1.08	1.13	1.08	1.06
31-31.9	1.10	1.15	1.10	1.08
32-32.9	1.12	1.17	1.12	1.10
33-33.9	1.14	1.19	1.14	1.12
34-34.9	1.16	1.21	1.16	1.14
35-35.9	1.18	1.23	for oil 34° & above.	for oil 34° & above.
36-36.9	1.20	1.25		
37-37.9	1.22	1.27		
38-38.9	1.24	1.29		
39-39.9	1.26	1.31		
40 & above	1.28	1.33		

(Continued in next column)

(a) Effective Oct. 2, 1939 by Continental, Humble and Texas Co.; Oct. 3, 1939 by Sinclair and Stanolind; Aug. 29, 1939 by Shell. Stanolind's lowest grade is below 21, at $0.88. Refugio, effective Oct. 2, '39 by Humble.

(b) Shell posts these prices in Iowa district, Black Bayou and White Castle, La.; prices in Iowa district have 2 lower grades: below 18, at $0.75, 18-18.9, $0.77; and 19-19.9, is $0.79.

Note: Humble's Gulf Coast prices apply in these Texas fields: Amelia, Clear Lake, Goose Creek, Mirando which includes Duval, Jim Hogg, Webb and Zapata counties and Heyser and Placedo fields; Mykawa, Sugarland, Thompsons and Webster.

Humble's prices in Refugio include crudes purchased in Saxet, East White Point, Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor fields.

Stanolind's prices apply in High Island and Spindletop; also in Clinton, Hastings and South Houston, where, effective Jan. 1, 1940, lowest grade is below 21° at $0.88; rest of schedule same as other Gulf Coast. Magnolia posts Mirando, effective Oct. 2, same prices as Humble. Texas Co.'s prices are in Texas and La., Gulf Coast; its prices on Refugio are same as Humble's up to 28 gravity; 28 & above, $1.09; on Duval-Mirando same as Humble's up to 28; 28 & above, $1.04; it posts Golden Meadow, La., 24-30 grav., $0.90, plus 2c differential, to 40 & above, $1.10.

Posted by Shell Oil Co., Inc. (Aug. 29, 1939)

Gibson field, Terreborne Parish, La. $1.04

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.

(Effective Oct. 11, 1938)

Salt Creek, (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas, ranging from $0.86 to $1.10, which see under Mid-Continent crude on previous page.

Tensleep, Salt Creek field	$0.646
Iles, heavy	0.92
Elk Basin, light	0.90
Grass Creek, light	0.90
Frannie light	0.55
Grass Creek, heavy	0.40
Hamilton Dome, Wyo	0.35
Frannie heavy	0.42

Posted by Ohio Oil Co. (Oct. 11, 1938)

Elk Basin, Wyo.	$0.90	Rock Creek	1.00
Grass Creek, light	0.90	Lance Creek	0.77
Dry Creek, Mont.			0.92
Grass Creek, heavy (May 1, 1938)			$0.50
Sunburst, Mont. (Nov. 16, 1937)			$0.90

Posted by Continental Oil Co.

(Oct. 11, 1938)

Cat Creek, Mont.	$1.10
Big Muddy, Wyo.	0.98
Lance Creek, Wyo.	0.77

CALIFORNIA, *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 1, 1940

Gravity	Signal Hill (Long Beach) and others*	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley Canal	Colea Levee Richfield Western	Mountain View and others**	Elk Hills	Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria Val. (Union Oil, Sept. 1 '39)
14-14.9	$0.65	$0.64	$0.63	$0.64	$0.65	$0.61	....	$0.65	$0.61	$0.61	$0.62	$0.63	....	....	....	$0.60	$0.60	$0.60	$0.60	$0.60	....	$0.42
15-15.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.44
16-16.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.45
17-17.9	.65	.64	.63	.68	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.46
18-18.9	.65	.64	.63	.71	.65	.65	....	.68	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	....
19-19.9	.69	.64	.67	.75	.70	.69	....	.72	.61	.65	.62	.63	....	....	....	.60	.64	.64	.64	.61	$0.60	....
20-20.9	.73	.64	.72	.79	.76	.74	....	.75	.65	.69	.62	.67	....	....	....	.60	.69	.69	.69	.62	.60	....
21-21.9	.78	.64	.76	.82	.81	.78	....	.79	.69	.73	.62	.72	$0.63	....	....	.64	.74	.74	.74	.66	.60	....
22-22.9	.82	.69	.81	.86	.86	.82	....	.82	.73	.77	.66	.76	.63	....	....	.68	.79	.79	.78	.70	.63	....
23-23.9	.86	.75	.85	.89	.92	.86	$0.71	.86	.78	.82	.71	.81	.67	....	....	.71	.84	.84	.82	.74	.67	....
24-24.9	.90	.80	.90	.93	.97	.90	.77	.89	.82	.86	.75	.85	.72	....	....	.75	.89	.89	.86	.78	.71	....
25-25.9	.95	.86	.94	.96	1.02	.95	.82	.93	.86	.90	.80	.89	.77	....	....	.79	.94	.94	.90	.82	.75	....
26-26.9	.99	.91	.99	1.00	1.08	.99	.88	.96	.90	.94	.84	.94	.82	....	....	.83	.99	.99	.95	....	....	....
27-27.9	1.03	.97	1.03	1.04	....	1.03	.94	1.00	.94	.98	.89	.98	.87	$0.83	$0.92	.87	1.04	1.04	.99	....	....	....
28-28.9	1.07	1.02	1.07	1.07	....	1.07	.99	1.03	.98	....	.93	1.02	.91	.86	.96	.91	1.09	1.09	1.03	....	....	....
29-29.9	1.10	1.07	1.11	1.10	....	1.10	1.04	1.06	1.02	....	.98	1.06	.96	.90	.99	.95	1.14	1.14	1.07	....	....	....
30-30.9	1.14	1.12	1.15	1.14	....	1.14	1.09	1.09	....	....	1.02	1.10	1.01	.94	1.02	.99	1.19	1.19	1.11	....	....	....
31-31.9	....	....	....	1.17		1.17	1.14	Elwood Terrace			1.07	1.14	1.05	.98	1.06	1.02	1.24	1.24				
32-32.9	....	....	....	1.20		1.20	1.19	F. o. b. ship.			1.11	1.18	1.09	1.02	1.09	1.06	1.29	1.29	Kettleman Hills			
33-33.9	....	....	....	....		....	1.24	....	$1.21	....	1.15	1.22	1.14	1.06	1.13	1.10	1.34	1.34	....	$1.12	....	....
34-34.9	....	....	....	....		....	1.29	....	1.25	....	1.20	1.26	1.19	1.10	1.16	1.14	....	....	....	1.17	....	....
35-35.9	....	....	....	....		....	1.34	....	1.29	....	1.24	....	1.23	1.14	1.20	....	....	....	....	1.21	....	....
36-36.9	....	....	....	....		....	1.39	....	1.33	....	1.28	....	1.27	1.18	1.23	....	....	....	....	1.25	....	....
37-37.9	....	....	....	....		....	1.44	....	1.37	....	1.33	....	1.31	1.22	1.26	....	....	....	....	1.29	....	....
38-38.9	....	....	....	....		....	1.49	....	....	....	1.37	....	1.36	1.25	1.30	....	....	....	....	1.33	....	....
39-39.9	....	....	....	....		....	1.54	....	....	....	1.42	....	....	1.29	1.34	....	....	....	....	1.38	....	....
40-40.9	....	....	....	....		....	1.59	....	....	....	1.46	....	....	1.33	1.37	....	....	....	....	....	....	....
41-41.9	....	....	....	....		....	....	....	....	....	1.50	....	....	1.37	1.40	....	....	....	....	....	....	....
42-42.9	....	....	....	....		....	....	....	....	....	1.54	....	....	1.41	1.44	....	....	....	....	....	....	....
43-43.9	....	....	....	....		....	....	....	....	....	1.59	....	....	1.45	1.47	....	....	....	....	....	....	....
44-44.9	....	....	....	....		....	....	....	....	....	1.63	....	....	1.49	1.51	....	....	....	....	....	....	....
45-45.9	....	....	....	....		....	....	....	....	....	1.67	....	....	1.53	1.54	....	....	....	....	....	....	....
46-46.9	....	....	....	....		....	....	....	....	....	1.71	....	....	1.57	1.57	....	....	....	....	....	....	....
47-47.9	....	....	....	....		....	....	....	....	....	....	....	....	1.61	....	....	....	....	....	....	....	....
48-48.9	....	....	....	....		....	....	....	....	....	....	....	....	1.64	....	....	....	....	....	....	....	....

FOB Standard Pipeline

*El Segundo prices same as Signal Hill. Wilmington prices same as Signal Hill, except below 19 gravity prices are: 14-16.9, $0.60; 17-17.9, $0.62; 18-18.9, $0.64.

**Includes Newhall, McKittrick, Kern River, Round Mountain and Kern Front, schedule for which ends with 19-19.9. Mountain View schedule begins with 19-19.9.

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· PERSONALS ·

Cornelius B. Watson, more familiarly known as "Neil" and "C. B.," graces the front cover of the September issue of The Pure Oil News, honoring his quarter of a century with the company. Mr. Watson, who is a vice-president and director of Pure, began with the old Ohio Cities Gas Co. in 1915.

* * *

C. A. Miller, assistant to the manager, Personnel Department, and in charge of Safety Division of The Texas Co. has been named by Secretary of Labor Perkins to the newly-created National Board of Safety Defense.

The board, composed of 8 members, will supervise a program to safeguard workers engaged in national defense activities. Mr. Miller will be in charge of the program for Texas, Oklahoma, Arkansas and Louisiana.

Two decades of service with Ohio Oil Co. were recently completed by **A. M. Gee,** general counsel, who was honored with a 20-Year Service Pin, presented by President **O. D. Donnell.**

* * *

Top honors of Delta Theta Phi, national legal fraternity, went to **Horace L. Lohnes,** Washington, D. C., last week when he was elected chancellor at the fraternity's biennial convention in Cleveland. Although now recognized as one of the country's leading radio lawyers, Mr. Lohnes keeps up his interest in the oil industry. He is associated with **Fayette B. Dow,** general counsel for National Petroleum Assn., and is a well-known figure at NPA conventions. Recently, some of Mr. Lohnes' radio money has been finding its way into the oil industry—Mississippi leases, to be more specific.

Dedication of the new Boston headquarters of Cities Service Oil Co. recently found the above array of well-known Cities Service officials in the Hub City. They are shown about to sign the honored guest book at the city hall. Left to right, **R. J. Hull,** Boston division manager; **H. E. Brandli,** vice-president in charge of exports; **J. A. Kelley,** sales manager; **John S. Cordell,** vice-president and general manager; **C. E. Foster,** vice-president in charge of marketing, and the Boston City Clerk. Seated, with pen in hand, is **Christopher Story,** Cities Service vice-president in charge of transportation.

General Edward Martin

The oil industry's contribution to national defense is not limited to the manufacture of natural and synthetic products for the machines of war, but also to supply men to man and direct defense forces.

One of the outstanding examples of a representative of the oil industry in a high place in our defense forces is **General Edward Martin,** president of the Dunn-Mar Oil & Gas Co. of Waynesburg, Pa., producer of Pennsylvania grade crude.

General Martin is Adjutant General of the Pennsylvania National Guard, and took a prominent part in the recent war maneuvers at Ogdensburg, N. Y., which were inspected by President Roosevelt.

* * *

John E. Messler, St. Louis, Apex Oil Co., was in Chicago last week visiting many of his old friends. Between long puffs on mild Havanas, Mr. Messler and **George Olson,** Chicago marketer, swapped yarns about "the good old days" when he worked for **Harry P. Dunn** and Mr. Olson was with Gustafson Bros. here in the Windy City.